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ABSTRACT

This report presents a series of recommendations for the development of public policy for the State of Ohio affecting higher education in the 1970's. The recommendations are more specifically related to: (1) the State and private higher education; (2) enrollment, admission, and student assistance; (3) the structure of public higher education in Ohio; (4) instructional programs and manpower planning; (5) capital facilities; (6) financial support of higher education; and (7) governance and the State government. In addition, recommendations are made for general studies, technical education, baccalaureate general, baccalaureate professional, master's level, graduate professional, doctor's level, and medical instructional programs. There is also some brief discussion about the rationale behind the proposals. (HS)

OHIO MASTER PLAN
for
PUBLIC POLICY
in
HIGHER EDUCATION
1971

Ohio Board of Regents
March, 1971

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INTRODUCTION

This MASTER PLAN-1971 of the Ohio Board of Regents presents a series of recommendations for the development of public policy of the State of Ohio affecting higher education in the decade of the 1970's. It has not been feasible within the constraints of time and of publication funds to accompany these recommendations with an extensive discussion of the reasons for them. The Board has made an attempt to provide some indication of the reasons for the proposals in the various sections of the Master Plan, but necessarily such discussion is sketchy and occasional.

Section 3333.04(A) of the Revised Code states that the Ohio Board of Regents "shall make studies of state policy in the field of higher education and formulate a master plan for higher education for the state, considering the needs of the people, the needs of the state, and the role of individual public and private institutions within the state in fulfilling these needs." This **Master Plan-1971** is set forth in response to this mandate.

A Master Plan is not self-enforcing. The Ohio Board of Regents is delegated by law the authority to make only two particular kinds of decisions in the light of the positions taken in this Master Plan: (1) decisions about new degree programs and new degrees to be offered by all public universities and colleges, and (2) the location and establishment of new two-year campuses. Otherwise, the recommendations of this Master Plan can only be implemented through the legislative process of the State of Ohio.

In the preparation of the Master Plan-1971, the Board of Regents has faced very different problems from those confronted when preparing the first Master Plan-1966. The study upon which the first Master Plan was based was undertaken in 1964, and the preparation of the Plan itself took place in 1965. At that time, the public effort in support of higher education in Ohio was just taking shape. Now, five years later, the experience of the entire decade of the 1960's is ours to analyze, and the emergent problems of the 1970's appear more intricate, more troublesome, more demanding.

The Master Plan-1971 itself actually consists of three parts: the first six sections are essentially concerned with issues of broad purpose and of organizational structure; sections 7 through 15, which constitute one-half of the Master Plan-1971, contain recommendations involving the programs of public institutions of higher education; and the final sections have to do with space, financing, and governance of higher education in Ohio.

As the Board of Regents has proceeded with the development of the Master Plan-1971, the Board has been acutely aware of several major

issues to be resolved. These major issues of public policy are these:

1. The Objectives of State Policy
2. The Future of Private Institutions of Higher Education in Ohio
3. The Enrollment Size of Public Universities
4. The Organizational Structure of Two-Year Campuses
5. Admission Policy for Public Higher Education
6. The Need for New Public Four-Year Colleges
7. The Development of Technical Education
8. The Future of Graduate Education, especially at the Doctoral Degree Level
9. The Need for Expansion of Medical Education
10. Adequate Financing of Higher Education Programs

The Board of Regents does not suggest that these are the only issues of importance to the State of Ohio. The Board asserts only that these are vital problems which must be answered in some way, although it must be readily conceded that solutions are neither simple to formulate nor easy to implement.

Furthermore, it is inevitable that particular recommendations for action on these vital problems will scarcely commend themselves favorably to everyone concerned about them. There are bound to be differences of opinion on these issues. Indeed, the Board has found that expert consultants do not necessarily agree about the desirable lines of action to follow in endeavoring to meet these problems. The Board has sought to find reasonable lines of action for troublesome problems and has endeavored to give careful consideration to the alternatives of action presented to it.

The Objectives of State Policy. Higher education has become a major expectation of a substantial portion of all American youth. As recently as 1955, about 60 percent of all 18 year olds graduated from high school and half of these graduates enrolled in higher education. As of 1971, over 75 percent of all 18 year olds will graduate from high school and at least 55 percent of these youth will enroll in higher education. As a consequence, the United States is now approaching the time when half of all 18 year olds will seek an opportunity for higher education.

A combination of a rapidly increasing number of young people in the 18 to 22 year age group and an increase in the proportion of these youth entering higher education produced a substantial enrollment expansion for Ohio higher education during the decade of the 1960's. In the autumn of 1960, on a head-count basis Ohio's colleges and universities, private and public, enrolled 175,000 students. In the autumn of 1970, this enrollment had grown to 375,000 students, an increase of 114 percent. But the expansion in the public institutions of higher education was from 96,000 students to 280,000 students, an increase of 202 percent!

Higher education policy in the decade of the 1970's must be concerned about issues beyond the single concern with accommodation of numbers of students. How much and what kind of educational opportunity must be provided to youth through the efforts of the State of Ohio? Should the State of Ohio support public higher education as an instrument of political power for a few or as an agency of educational development for individuals in a society which encourages constructive criticism and espouses progressive change? What can be done to improve the quality of public higher education and to make instruction and all other activities increasingly responsive to all interests of society, including the interests of college age youth?

The Future of Private Higher Education. The expansion of higher educational opportunity for the youth of Ohio in the decade of the 1960's was made possible in large part by public action in support of public institutions of higher education. In 1960, 55 percent of college and university enrollments in Ohio were accommodated by public institutions and 45 percent of enrollment was to be found in private institutions. In 1970, these proportions had changed to 75 percent public and 25 percent private. There are predictions that in accordance with current trends, the proportions might be 87 percent public and 13 percent private by 1980.

What should be the public policy of Ohio toward private higher education in the decade of the 1970's? Various possibilities have been considered. One proposal has been that the State should offer to absorb any of the 44 four-year private colleges and universities in Ohio desiring to be a part of the state system of higher education. Another proposal has been that the State of Ohio should make an outright grant of money to every Ohio student enrolling in a private institution regardless of the student's economic need. Another suggestion has been that the State of Ohio provide an operating grant to every four-year accredited private college or university. Still another proposal has been to improve substantially the student assistance program for students enrolled in private colleges. The Board of Regents has given consideration to all of these and to other proposals. The Board believes it will be to the social, educational, and economic advantage of Ohio and of Ohio taxpayers to give still further attention to the welfare of our private colleges.

Enrollment Size of Public Universities. During the decade of the 1960's, the twelve public universities of Ohio expanded their enrollment size substantially in order to accommodate student demand. The public universities are seldom given any credit for this achievement. Instead, it has become fashionable to criticize enrollment size on the grounds that campuses are over-crowded, congested, impersonal, ponderous in operation, cumbersome in change. Sometimes public officials and citizens of

the adjacent community criticize universities on such charges as creating traffic congestion, requiring increased law enforcement activities, and generating demands for additional municipal services. Undoubtedly the growth of the public universities achieved economies of scale. Yet there is a question whether or not enrollment growth of existing public universities should continue unchecked.

The Organizational Structure of Two-Year Campuses. Legislation enacted by the Ohio General Assembly in 1961, before the creation of the Board of Regents, provided for a variety of two-year campuses in Ohio: community colleges, technical institutes, and university branches. In the 1966 Master Plan, the Board of Regents was disposed to let this variety continue and expand. But increasingly we have been made aware of difficulties in this arrangement. As of the end of 1970, there were 4 community colleges, 15 technical institutes, 19 university branches, and 12 academic centers. Various criticisms have been made of this array of two-year colleges by consultants and by others. The Board of Regents has given extensive attention to alternative courses of action which might make these two-year campuses effective and viable participants in the higher education enterprise of Ohio. At the same time, any new arrangements must also have community interest and support.

Admission Policy for Public Higher Education. Under existing provision of law, Ohio's public universities are obligated to admit every graduate of the twelfth grade who applies for enrollment. This provision of law is inconsistent with the idea of limitations upon the enrollment size of public universities. Moreover, this provision of law seems to imply that the taxpayers of Ohio have an obligation to provide every graduate of high school with a four-year college education. A college degree is not just a job passport to which every child born in Ohio is entitled. A four-year degree should represent a disciplined intellectual achievement of which not everyone is necessarily capable, just as many are not competent to be a performing artist, a creative writer, an inventor, a skilled workman, or a professional athlete. An open-door policy to Ohio's public universities can result only in the admission of innumerable youth destined to fail, or else the reduction of a four-year college degree to a meaningless piece of paper.

On the other hand, the taxpayers of Ohio do have an obligation to provide wide academic opportunity to our young people whose abilities and efforts will enable them to achieve the necessary standards of a college education. Youth must have the chance to prove in practice their competence for college study. In the words of a recent report of the Carnegie Commission on Higher Education: "We favor universal access but not universal attendance in our colleges and universities." It is the course of wisdom to allow for differences among people and to provide a variety of post-secondary educational opportunities to match them. Higher education

must be a matter of substance rather than the pursuit of status. The importance of open access to the public system of higher education can and should be preserved.

The Need for New Public Four-Year Colleges. With enrollment limitations placed upon some public universities, is there a need for new public four-year colleges? One evidence of this need cited to us in the past has been the unfulfilled demands for public school teachers. But it is now clearly evident that Ohio confronts the prospect of an oversupply of school teachers in the decade of the 1970's. If existing four-year private colleges can survive and expand, any unfulfilled need to provide opportunities for study at the bachelor's degree level can be met.

The Development of Technical Education. Great strides have been made in the past five years in Ohio in the expansion of opportunities for technical education and in the education of individuals qualified to serve as professional associates in the performance of essential professional services to the American people. The promise of increased productivity, economy, and availability in the performance of essential professional services for our society lies with technical education. An added promise of useful and needed activity for large numbers of individuals lies with technical education. The opportunities for technical education must be further expanded and the status of technical education as a worthwhile, integral part of higher education must be enhanced.

The Future of Graduate Education. There are continuing warnings at present that the United States is educating or will educate too many persons at the highest level of instruction, the Doctor of Philosophy degree. It is said in some quarters that the Ohio Board of Regents has permitted too many public universities to offer doctoral programs. We have accepted the standard, however, proposed by the National Science Board in 1969, i.e., that each metropolitan area with a population in excess of 500,000 should have graduate education resources of high quality and of sufficient capacity to ensure full contribution to cultural, social, and economic development.

The Need for Expansion of Medical Education. The United States does not have a sufficient number of doctors, nor an adequate structure for the delivery of health care to its citizens. These deficiencies will demand greater attention in the future than they have received in the past. Two proposals have been considered by the Board of Regents. One proposal calls for the expansion of the existing four colleges of medicine in Ohio and the creation of new adjunct health education centers. The other proposal calls for the establishment of new colleges of medicine with innovative arrangements for instruction, especially in the clinical sciences.

The Adequate Financing of Higher Education Programs. Ohio has made great strides in providing needed financial resources for higher education during the decade of the 1960's. There is a need for still further

effort in the 1970's. Essentially, public higher education must be supported from two sources of income: tax appropriations and student charges. Both sources of income may have to be enlarged in the decade of the 1970's. It is essential that as student charges are increased, the state's student assistance program for students from low income families should be expanded.

To these and related questions of substance and procedure the Ohio Board of Regents has addressed its attention in the preparation of this **Master Plan-1971.**

I. GENERAL

1. Ohio with a population in 1970 of 10.7 million people is the sixth largest state in the United States with about 5.3 percent of the total population. It is predominantly an urban state, with 80 percent of this population living in urban communities. This urban population is widely distributed throughout the state, Ohio containing all or part of 15 metropolitan statistical areas. As of 1970, 19 out of 88 counties had a population of 100,000 or more persons. As of 1970, about 10 percent of the population was non-white. It was estimated that 45 percent of the population 21 years and older had graduated from high school, about 15 percent had some college education, and about 8 percent had a baccalaureate.

2. As of 1969, the gross state product of Ohio was estimated to be some 51 billion dollars, compared with 38 billion dollars in 1965. Ohio was fifth in the United States among all states in terms of gross state product, providing about 5.5 percent of the gross national product. The major components of this gross state product in 1970 as estimated by the State Department of Development were as follows:

	In Billions of Dollars	
	1965	1970
Agriculture	0.5	0.4
Mining, Construction, and Manufacturing	17.8	22.6
Mining	0.4	0.6
Construction	1.6	2.1
Manufacturing	15.8	19.9
Services	19.2	29.6
Wholesale and retail trade	5.8	8.0
Transportation and utilities	3.0	3.8
Finance, insurance, real estate	3.9	6.9
Government	2.9	4.1
Other services	3.6	6.8
Total	37.5	52.6

3. Ohio's personal income in 1969 was about 40 billion dollars, with the average income per household being over $10,000 a year and

the average income per person being around $3,800 a year. Ohio residents ranked 15th among all states in average income. It has been estimated that personal income in Ohio is derived in these proportions from the various sectors of the economy:

	Percent
Manufacturing	43.5
Wholesale and retail trade	15.5
Services and other business	11.7
Government	10.3
Transportation and utilities	6.5
Construction	5.9
Finance, insurance, real estate	3.7
Farming	2.9

4. The distribution of employment in Ohio in 1969 as compared with 1960 is shown in an accompanying table. It is noteworthy that

Table 1

Average Employment in Ohio by Major Industry Division
1960 and 1969[a]

	Industry Division 1960	1969
Total	**3,711,500**	**4,355,000**
Agriculture	176,700	107,800
Mining, construction, manufacturing	1,427,800	1,667,400
Mining	20,100	19,900
Construction	144,900	179,500
Manufacturing	1,262,800	1,468,000
Durable goods	888,100	1,050,100
Nondurable goods	374,700	417,900
Services	1,719,500	2,223,700
Wholesale and retail trade	619,200	761,300
Government	399,200	544,900
Federal	91,800	101,900
State	65,100	97,500
Except education	45,300	51,300
Education[b]	19,800	46,200
Local	242,300	345,400
Services	371,900	543,900
Finance, insurance, real estate	120,400	151,600
Transportation and utilities	208,800	222,000
Other[c]	387,600	356,100

[a] Components may not add to totals due to rounding.
[b] Includes Ohio Department of Education.
[c] Nonagricultural domestic, self-employed, and unpaid family workers, and disputants.

Source: Division of Research and Statistics
Ohio Bureau of Employment Services
Columbus Revised 2-20-70

employment in agriculture declined by 40 percent, that employment in mining-construction-manufacturing increased by 17 percent, and that employment in services increased by 30 percent. In terms of the kind of work performed, as distinguished from the kind of employer, it is estimated that Ohio's 4.4 million workers in 1970 were distributed as follows:

	Percent
Skilled operatives	18
Clerical personnel	16
Craftsmen and foremen	13
Service workers	13
Professional workers	13
Managers and proprietors	10
Sales personnel	6
Farmer managers and workers	5
Laborers	5

5. As a highly industrialized state and as a state whose economy is moving increasingly to the performance of service activities, Ohio must give increasing attention to both the quality and the quantity of its higher education endeavors. Such attention is essential to sustaining the economic growth and the cultural progress of the State. In an economy where 56 percent of the output and 50 percent of the employment is provided by services, education for professional and para-professional occupations is necessary in order to meet the needs of all citizens.

6. On an autumn head-count basis, enrollment in Ohio higher education has been as follows:

	Total	Public	Private
1951	119,531	61,248	58,103
1955	132,110	72,683	59,427
1960	175,011	95,977	79,034
1965	275,773	173,932	101,841
1969	366,109	265,532	100,577

In terms of the relationship of this enrollment growth to population, Ohio's experience has been as follows:

	Enrollment as Percent of Population	Enrollment as Percent of 15-24 Age Group
1951	1.5	10.9
1960	1.8	10.5
1969	3.4	26.1

7. Higher education enrollments grew substantially in the decade of the 1960's because of an increase in the proportion of young people enrolling for college studies. Some further growth of this kind must be expected in the 1970's, even though the change may not be so dramatic as in the 1960's.

8. During the decade of the 1950's and 1960's, appropriations in support of higher education increased in Ohio as follows:

	Appropriations For Instruction	Appropriations Per Full-Time Student
1951-52	$ 21,481,000	$533
1953-54	24,094,000	576
1955-56*	23,944,000	495
1957-58	31,678,000	605
1959-60	38,099,000	655
1961-62	45,620,000	655
1963-64	52,511,000	584
1965-66	74,587,000	567
1967-68	133,688,000	719
1969-70	201,478,000	883

*Not comparable with appropriations for other years since it did not include funds for contribution to State Teachers Retirement System.

9. Although Ohio's rate of increase in appropriation support of higher education was greater than the average for the United States as a whole, the State of Ohio as of 1970-71 ranked 46 among 50 states in the per capital appropriation in support of higher education. These data are shown on the tables which accompany this Master Plan. As a minimum, the State of Ohio should undertake at this time to increase its current appropriation support of higher education to the average prevailing in the United States as a whole.

10. Ohio's record in appropriations for capital improvements during the decades of the 1950's and 1960's was as follows:

Appropriations of State Tax Funds for Operating Expenses of Higher Education in Thousands of Dollars, for Fiscal Years 1961, 1969, and 1971, with Percentage Gains Over Most Recent Two Years and Over Ten Years

States	Fiscal years ending in odd numbers			2-yr. gain	10-yr. gain	States
	1960-61	1968-69	1970-71	%	%	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Ala.	$ 22,397	$ 58,462	$ 74,825	28	234	Ala.
Alaska	2,323	10,400	17,000	63½	632	Alaska
Ariz.	16,218	55,121	83,351	51¼	414	Ariz.
Ark.	13,551	44,547	54,922	23¼	305	Ark.
Cal.	221,592	637,788	817,126	28	268½	Cal.
Colo.	24,332	70,586	110,624	57	354½	Colo.
Conn.	13,080	61,513	97,353	58¼	644	Conn.
Del.	3,734	14,095	20,230	43½	442	Del.
Fla.	41,412	156,645	241,356	54	455	Fla.
Ga.	26,605	112,524	148,653	32	451¼	Ga.
Hawaii	5,825	30,987	55,167	78	847	Hawaii
Idaho	8,799	20,601	31,506	53	259	Idaho
Ili.	90,290	301,136	477,546	46½	429	Ill.
Ind.	50,163	144,715	173,979	20¼	247	Ind.
Iowa	34,861	85,773	101,597	18½	191	Iowa
Kas.	27,938	69,108	82,031	19	194	Kas.
Ky.	19,672	82,350	108,715	32	453	Ky.
La.	44,557	99,222	121,813	23	173	La.
Me.	5,599	17,873	27,783	55½	396	Me.
Md.	25,166	79,742	120,961	51½	386½	Md.
Mass.	13,361	69,097	116,093	68	769	Mass.
Mich.	101,836	262,424	343,691	31	237½	Mich.
Minn.	38,920	105,131	143,448	36½	268½	Minn.
Miss.	18,347	47,804	72,189	51	293½	Miss.
Mo.	25,641	112,764	131,571	16½	413	Mo.
Mont.	11,231	24,418	29,156	19½	159½	Mont.
Neb.	15,218	33,248	48,386	45½	218	Neb.
Nev.	4,107	12,339	15,908	29	287	Nev.
N.H.	4,106	10,221	10,938	7	116½	N.H.
N.J.	24,457	95,047	154,430	62½	531½	N.J.
N.M.	11,239	31,262	41,639	33	270	N.M.
N.Y.	94,116	482,986	746,529	54½	693	N.Y.
N.C.	30,574	114,709	175,931	53½	475½	N.C.
N.D.	9,368	19,888	23,249	17	148	N.D.
Ohio	45,326	174,136	260,690	50	475	Ohio
Okla.	27,020	52,858	69,467	31½	157	Okla.
Ore.	28,719	67,984	95,901	53	234	Ore.
Pa.	43,472	264,693	352,787*	33¼*	711½*	Pa.
R.I.	5,271	21,545	31,413	46	496	R.I.
S.C.	13,141	44,308	68,786	55	423½	S.C.
S.D.	8,128	17,152	21,202	24	161	S.D.
Tenn.	17,023	73,137	98,598	35	479	Tenn.
Texas	72,133	259,425	343,515	32½	376	Texas
Utah	13,129	33,695	45,320	31	236	Utah
Vt.	3,399	10,940	14,758	35	334	Vt.
Va.	29,861	107,524	136,134	26½	356	Va.
Wash.	47,441	137,051	190,903	39¼	300	Wash.
W.Va.	16,919	49,033	58,719	19	245	W.Va.
Wis.	39,417	155,957	181,237	16¼	360	Wis.
Wyo.	4,935	11,123	14,672	32	197	Wyo.
Totals	1,515,979	5,055,087	7,003,798			
Weighted average percentages of gain				38½	362	

* Estimated in absence of report of complete appropriations.
GRAPEVINE, October, 1970, M. M. Chambers.

1970-1971
Per Capita State Appropriation for Higher Education

State	Approp. Per Capita	Rank	State	Approp. Per Capita	Rank
U. S. Total	34.97	—			
Hawaii	73.75	1	Louisiana	34.18	26
Alaska	57.82	2	Rhode Island	34.07	27
Washington	56.97	3	Indiana	33.83	28
Colorado	50.38	4	Vermont	33.69	29
Arizona	47.57	5	Mississippi	33.45	30
Oregon	46.64	6	Georgia	33.09	31
Idaho	45.13	7	Nevada	33.00	32
Wyoming	44.73	8	Nebraska	32.96	33
Illinois	43.52	9	Connecticut	32.58	34
Montana	42.75	10	South Dakota	32.07	35
Utah	42.75	11	Texas	31.26	36
New Mexico	41.72	12	Maryland	31.22	37
New York	41.52	13	Pennsylvania	30.25	38
Wisconsin	41.50	14	Virginia	29.96	39
California	41.48	15	Arkansas	29.12	40
Michigan	39.16	16	Maine	28.44	41
North Dakota	38.11	17	Missouri	28.38	42
Minnesota	38.07	18	Oklahoma	27.81	43
Delaware	37.25	19	South Carolina	27.26	44
Kansas	36.92	20	Tennessee	25.69	45
Iowa	36.42	21	Ohio	24.73	46
Florida	36.18	22	Alabama	22.18	47
North Carolina	35.42	23	New Jersey	21.77	48
West Virginia	34.50	24	Massachusetts	20.62	49
Kentucky	34.40	25	New Hampshire	15.13	50

Biennium	State Appropriations for Capital Improvements
1951-53	$ 2,697,000
1953-55	9,172,000
1955-57	20,028,000
1957-59	37,540,000
1959-61	20,693,000
1961-63	1,773,000
1963-65	91,521,000
1965-67	215,110,000
1967-69	12,850,000
1969-71	266,000,000

11. In the biennium 1969-71, the Ohio General Assembly made total appropriations for current operating purposes from the General Fund (as distinct from the Highway Fund and other specialized funds) in the amount of some three billion dollars. By major purpose or program, these appropriations were divided as follows:

	Percentage
School Foundation and Administration	36
Welfare	29
Higher Education	16
Health and Corrections	13
General Government	6

12. The people of Ohio must be shown that expenditures on behalf of higher education are a major benefit to all the citizens of Ohio.

II. OBJECTIVES OF STATE POLICY

1. Higher education in the United States, and in its origins in Western Europe, has had dual purposes: to encourage the intellectual development of the individual and to help prepare the individual for productive participation in society. It has never been a simple matter to define either objective in terms of clear-cut expectations or out-puts, in terms of effective operational process, and in terms of individual as against social benefits. Moreover, there are some persons who see the desirable linkage between higher education and society not as a relationship of service, but as a relationship of change.

2. If society in general is to be asked to make a sizable investment in higher education, and if the State of Ohio in particular is to be expected to provide increased public support of higher education, then colleges and universities must clearly set forth social purposes of service and of contribution to constructive, orderly progress.

3. Higher education seeks to assist the individual in the cultivation of his or her cognitive capacity, in the ability to understand and to expand useful verbal knowledge, in the comprehension of facts and propositions based upon facts, in the creative employment of reason as opposed to emotion. In the process of seeking to assist the individual in his quest for knowledge and the advancement of knowledge, higher education may illuminate issues of values, of ethical or moral commitment, and even of spiritual insight. Higher education may also enhance the skill of the individual in the useful application of knowledge for the betterment of other persons. But higher education does not seek to displace other institutions of society with their assigned or assumed roles in a pluralistic, tolerant, concerned social order.

4. The State of Ohio should offer the opportunity for formal intellectual development or encouragement to every high school graduate

interested in such development for at least two years beyond the high school. It seems reasonable to expect that such opportunity will be sought by not less than 50 percent of all youth of college age. Public higher education in particular must provide such an opportunity in meaningful terms for not less than this proportion of youth.

5. In addition to two years of opportunity for intellectual growth and development, public policy in Ohio should seek to provide higher educational opportunity to qualified persons for para-professional, pre-professional, and professional preparation in relation to the changing manpower requirements needed in a complex and technologically advanced American society.

6. The State of Ohio must expect that opportunity for post-secondary education will be made available to persons of talent and motivation without regard to race, religion, sex, national origin, or socio-economic status.

7. The State of Ohio should encourage by appropriate means the fullest possible utilization of the instructional resources of the privately sponsored colleges and universities located in the state.

8. Among the instructional programs of higher education, the State of Ohio needs to give increased attention to providing opportunities for technical education at the associate degree level. There is a need also for expanded opportunities for graduate and graduate professional education (especially in the health sciences).

9. The State of Ohio should give greater encouragement to the research and to the public service (especially the continuing education) activities of higher education.

10. The State of Ohio should give increased attention to appropriate means for overcoming socio-economic barriers to higher education, especially in terms of remedial or developmental instructional assistance to youth whose family and economic circumstances have hampered the development of their intellectual competencies.

11. In undertaking support of instructional and other activities of higher education, the State of Ohio must be concerned to meet the needs of the people of the state for educational services which cannot be met by their own individual and group efforts or are not being met by business, associational, and other governmental efforts.

12. The State of Ohio should give particular attention in the decade of the 1970's to support of improvements in the quality of instructional activities in public colleges and universities.

13. Ohio's public colleges and universities have a reciprocal obligation to the State of Ohio to cultivate and obtain greater public understanding and appreciation of their educational activities and accomplishments, of their contributions to individual and social advancement, and their commitment to a free society of order, justice, and progress.

III. THE STATE AND PRIVATE HIGHER EDUCATION

1. Privately sponsored and accredited colleges and universities should continue to perform their important educational services for the benefit of citizens of Ohio, the region, and the nation. A doubling of the enrollment in the private sector of higher education in Ohio during the decade of the 1970's is a desirable objective. The alternative to privately sponsored higher education with its operating support derived primarily from student charges and philanthropic giving is an ever larger enrollment in public institutions and a larger burden upon the taxpayers of Ohio.

2. The continued operation and financial well-being of Ohio's private colleges can be encouraged by an improved program of state financial assistance to students which would help to reduce the economic incentive for students to enroll in public universities.

3. The continued operation and financial well-being of Ohio's private colleges can be encouraged by a new program of contract services whereby a private college wishing to do so will agree to accept any graduate with an associate degree from a public two-year college who wishes to continue his or her educational program at the baccalaureate level. The private college or university under this contract of service would agree to charge such student the equivalent amount of the instructional and general fees charged by the state universities and would receive from the State of Ohio the amount of the state subsidy provided for students enrolled in comparable instructional programs at state universities.

4. The continued operation and financial well-being of Ohio's private colleges and universities can be encouraged by a new program of state assistance in capital improvements. A vehicle for the financing of such capital improvements is already in existence through the Ohio Higher Educational Facility Commission established by Chapter 3377 of the Ohio Revised Code. It is recommended that the Ohio Board of Regents be authorized by law to enter into contracts with private colleges to assist them in financing new instructional facilities required in order to expand student enrollment. Under such contract the payments to private colleges and universities might be fixed at the amount required in rental payments for buildings constructed under the provisions of Chapter 3377 of the Revised Code.

5. The continued operation and financial well-being of Ohio's private colleges can be encouraged by a new program of direct financial assistance to all such institutions. It is recommended that the Ohio Board of Regents be authorized by law to enter into arrangements with The Ohio College Library Center whereby each year books in the value of $50 per full-time equivalent student should be provided on permanent loan to each accredited private college.

6. The continued operation and financial well-being of Ohio's private colleges can be encouraged by increased attention on the part of these colleges themselves to their own financial management. Increased attention should be given to enrollment expansion in order to achieve economies of scale, to appropriate increases in the ratio of students to faculty, to elimination of high cost programs or areas of instruction, to additional possibilities for inter-institutional cooperation among both private and public institutions of higher education, and to reductions in general income expenditures for student financial assistance.

7. The State of Ohio should continue its direct financial support of medical education by Case Western Reserve University in the interests of the citizens and taxpayers of Ohio, and the Board of Regents should explore the possibility of a similar program of assistance to education in dentistry by Case Western Reserve University.

8. It must be recognized that no private college or university is or should be under any compulsion to cooperate with the State of Ohio in implementing the programs of encouragement and assistance outlined herein.

IV. ENROLLMENT, ADMISSION, AND STUDENT ASSISTANCE

1. By the end of the 1970's, Ohio's public institutions of higher education must be prepared to enroll 450,000 students on a headcount basis in the autumn quarter, or 360,000 students on a full-time equivalent basis. The magnitude of this growth can be indicated from the following figures:

	Ohio Public Higher Education	
	Autumn Headcount	Autumn F.T.E.
1960	95,977	62,033
1970	279,360	234,578
1980	450,000	360,000

In terms of percentage, the enrollment growth of public higher education for the decade of the 1970's is substantially less than that experienced in the decade of the 1960's: a 60 percent rate of growth as against a 200 percent rate of growth. But in this instance, percentages can be misleading. On a headcount basis, public higher education must be prepared to provide opportunity for another 170,000 students during the decade of the 1970's, and this number is only slightly less than the 184,000 additional students accommodated during the 1960's. Moreover, about two-thirds of this increase may occur by 1975.

2. In making projections of enrollment in Ohio's public institutions of higher education, a major issue is how this enrollment will be distributed by programs and by particular colleges and universities. By broad categories of types of instructional programs, it appears reasonable in the light of past experience and projected needs to anticipate that an autumn enrollment of 360,000 full-time equivalent students might be distributed as follows:

	Autumn F.T.E.
Two-year programs	146,000
Baccalaureate programs	170,000
Graduate and graduate-professional programs	44,000
	360,000

3. The Ohio General Assembly in 1969 in enacting Section 3345.19 of the Ohio Revised Code directed that as of the autumn of 1971 five state universities should observe the following enrollment limitations expressed in terms of autumn full-time equivalent students:

	Autumn F.T.E.
Bowling Green State University	15,000
Kent State University	20,000
Miami University	15,000
Ohio State University	40,000
Ohio University	20,000

The Ohio Board of Regents recommends that these enrollment limitations be retained because of the problems of student housing and urban services which have been encountered in the communities where these state universities are located. At the same time, the Board of Regents recommends that the enrollment limitation for The Ohio State University be amended to exempt from the 40,000 figure the students enrolled in agricultural programs, in allied medical professions programs, in nursing programs, in the graduate professional program for the degree of doctor of veterinary medicine, in the graduate professional program for the degree of doctor of optometry, in the graduate professional program for the degree of doctor of dental surgery, and in the graduate professional program for the degree of doctor of medicine.

4. In the following section of this **Master Plan-1971**, certain enrollment projections will be set forth for the baccalaureate, graduate, and graduate professional programs of the other six state universities and the one state-affiliated university. With one exception (Central State University), these other public universities have two characteristics in common:

(1) they are located in large urban cities where they serve a considerable number of commuting students; and (2) they have two-year public colleges in the same community with them.

5. Because of enrollment limitations placed upon certain state universities and because of the availability of a structure of two-year campuses throughout Ohio and especially in large urban centers, the Board of Regents recommends that the open-door admission policy for all Ohio high school graduates set forth in Section 3345.06 of the Revised Code should be made applicable to two-year campuses.

6. It is recommended that all graduates of a two-year program with an associate degree from a public two-year campus be provided with the opportunity for open admission to an appropriate baccalaureate program of a public university or a private college in Ohio.

7. It is recommended that public universities be authorized by law to select the Ohio high school graduates to be admitted as first-year students in baccalaureate programs in accordance with the enrollment limitations, enrollment objectives, and special characteristics of each public university.

8. It must be emphasized that in selecting high school graduates for admission to baccalaureate programs, public universities will continue to provide an opportunity for students of high motivation for college study but disadvantaged in their preparation for such study, especially black students who may fall in this category.

9. Because of enrollment limitations upon certain state universities and because of the desirability of selective admission of first-year students to the baccalaureate programs of public universities, it is recommended that public universities in Ohio be restricted to admitting not more than 15 percent of all students enrolled as first-year students in baccalaureate programs to students from outside Ohio.

10. In order to clarify admission policy and in order to make such policy consistent with enrollment limitations of law and enrollment objectives set forth herein, it is recommended that Section 3345.06 of the Ohio Revised Code be amended to read as follows:

> An Ohio resident who graduates from the twelfth grade shall be entitled to admission without examination to a two-year publicly sponsored college receiving current operating support from the state. An Ohio resident who graduates from the twelfth grade shall be admitted to a baccalaureate program of a publicly sponsored university receiving current operating support from the state in accordance with standards and procedures to be determined by the board of trustees or directors of such university.

Admission to baccalaureate programs by publicly sponsored universities of graduates of the twelfth grade who are not residents of Ohio shall not exceed fifteen percentum of such total admissions.

A publicly sponsored university shall admit students to graduate and graduate professional programs of instruction in accordance with standards and procedures to be determined by the board of trustees or directors of such university, and these standards and procedures may be different from those established for admission to baccalaureate programs.

An Ohio resident who graduates with an associate degree from a publicly sponsored two-year institution of higher education shall be admitted without further qualification to a baccalaureate program of a publicly sponsored university, but only such course credit hours may be transferred to a particular baccalaureate program as are applicable to the requirements of that program. The Ohio Board of Regents shall establish arrangements to ensure that graduates of a publicly sponsored two-year institution of higher education are referred to a public university with space available to accommodate the desired admission.

11. It is recommended that all public institutions of higher education continue to establish academic and other performance standards for each instructional program offered by the institution. In particular, it is recommended that all persons associated with public higher education in Ohio utilize all appropriate means to emphasize that open admission or selective admission to any public institution of higher education is not a guarantee of academic achievement, and that individual student performance will continue to determine who shall complete an instructional program and receive a degree in recognition thereof.

12. It is recommended that the State of Ohio continue to seek elimination of the economic barriers to higher education by the appropriate geographical availability of higher education opportunity throughout the state as proposed in this Master Plan.

13. It is recommended that the State of Ohio continue to seek elimination of the economic barriers to higher education by a program of instructional grants to students from low-income families. It should be understood that such state instructional grants are intended to supplement other sources of income needed by a student, including student earnings, family support, federal government assistance, and loans. For the present, the Board of Regents recommends that the Instructional Grants Program provided by Section 3333.12 of the Ohio Revised Code should be amended to provide tables of grants as follows:

Institutions Having Instructional and General Charges Over $1,000

(The grant shall not exceed the total instructional and general charges of the institution)

Adjusted Income	Number of Dependent Children				
	1	2	3	4	5 or more
$ 4,000 and under	$1200	$1200	$1200	$1200	$1200
$ 4,001 - $ 4,999	1050	1200	1200	1200	1200
$ 5,000 - $ 5,999	900	1050	1200	1200	1200
$ 6,000 - $ 6,999	750	900	1050	1200	1200
$ 7,000 - $ 7,999	600	750	900	1050	1200
$ 8,000 - $ 8,999	450	600	750	900	1050
$ 9,000 - $ 9,999	300	450	600	750	900
$10,000 - $10,999	150	300	450	600	750
$11,000 and over	—	—	—	—	—

Institutions Having Instructional and General Charges Less Than $1,000

(The grant shall not exceed the total instructional and general charges of the institution)

Adjusted Income	Number of Dependent Children				
	1	2	3	4	5 or more
$ 4,000 and under	$510	$510	$510	$510	$510
$ 4,001 - $ 4,999	450	510	510	510	510
$ 5,000 - $ 5,999	390	450	510	510	510
$ 6,000 - $ 6,999	330	390	450	510	510
$ 7,000 - $ 7,999	270	330	390	450	510
$ 8,000 - $ 8,999	210	270	330	390	450
$ 9,000 - $ 9,999	150	210	270	330	390
$10,000 - $10,999	90	150	210	270	330
$11,000 and over	—	—	—	—	—

V. THE STRUCTURE OF PUBLIC HIGHER EDUCATION IN OHIO

1. Essentially, the structure of public higher education in Ohio is comprised of two kinds of institutions: 12 public universities with one separate college of medicine and approximately 50 public two-year colleges. This structure is a sound one, but some modifications in the organization and designation of two-year campuses is desirable in the interests of clarifying the mission and programs of these campuses. There is no need at this time for any new public four-year colleges offering baccalaureate programs in arts and sciences, teacher education, and business administration.

2. The twelve public universities have each their own individual history and traditions, their different geographical locations, their varied programs of instruction and other educational activity, and their special circumstances. In general, it is recommended that each public university concentrate its attention upon appropriate baccalaureate, graduate, and graduate professional programs of instruction. Particular exceptions will be noted below.

3. In general, two-year campuses should offer comprehensive programs of general studies and of technical education. The course credits of such programs should be transferable to appropriate baccalaureate programs of instruction in accordance with the requirements of those programs.

4. All public institutions of higher education should undertake a continuing evaluation of their instructional programs, their course requirements or curriculum, and their instructional procedures. There is an increasing need for innovation and improvement in all aspects of academic endeavor.

5. The University of Cincinnati should continue in its status as a municipally sponsored, state-affiliated university. On its central campus it is recommended that the University should concentrate upon the offering of baccalaureate programs, graduate programs, and graduate professional programs. It is anticipated that in accordance with the provisions of Section 3349.31 of the Ohio Revised Code, the affiliated units of the University will be those providing baccalaureate professional programs in nursing and pharmacy, those providing graduate instruction for the master's and doctor's degrees, and those providing graduate professional instruction in law and medicine. The University would continue to receive financial support from the State of Ohio as provided under Section 3354.01(C) of the Revised Code.

6. Because of the proximity of the Medical College of Ohio at Toledo to the University of Toledo, and because a university base is generally considered advantageous to a college of medicine, the boards of trustees of the two institutions are requsted to study the question of the desirability and feasibility of consolidating the two institutions with a view to the achievement of economies in overhead and in the utilization of facilities for instructional programs. The Board of Regents stands ready to lend appropriate assistance in the conduct of such a study.

7. For internal planning purposes and for budget management, the following enrollment objectives in terms of full-time equivalent students in the autumn quarter are set forth herein to be realized by the autumn of 1980 or sooner, not including any two-year programs:

	Baccalaureate Programs	Graduate and Grad.-Prof. Programs
Akron	10,500	2,000
Bowling Green	13,200	1,800
Central State	4,800	200
Cincinnati	21,000	8,000
Cleveland	17,000	3,000
Kent	16,600	3,400
Miami	11,000	1,800
Ohio	17,000	3,000
Ohio State	30,000	15,000
Toledo	10,500	2,000
Wright State	10,400	1,800
Youngstown	8,000	1,000
Medical Colleges	—	1,000
	170,000	44,000

8. As of 1971, two-year campuses in Ohio are of several different kinds: community colleges, technical institutes, community and technical colleges of state universities, university branches, and university academic centers. These two-year campuses are quite varied in program offerings, in physical facilities, and in inter-relationships. The state universities of Ohio under the impetus of the "veterans bulge" in enrollments immediately after World War II established or expanded various academic centers. These were continued during the decade of the 1950's in large part because of the great demand of school district for elementary school teachers. In 1961 the Ohio General Assembly enacted laws authorizing the creation of community colleges, technical institutes, and university branch districts. At the beginning of 1970 there were in existence 4 community colleges, 14 technical institutes, 19 university branches, and 12 academic centers, with certain additional campuses in process of development. In the light of this variety of experience and in view of local attachments, any rationalization of this structure in the interests of providing comprehensive, unified instruction in general studies and technical education on an open-door admission basis and under single educational management appears difficult to achieve at this time.

9. It is recommended that public universities make appropriate preparations to terminate instruction at academic centers located in high school facilities as the program of construction of two-year campuses now underway reaches completion. Some off-campus instruction based upon a university general and technical college may be continued where enrollment and available facilities warrant such action and where accreditation standards of instruction can be maintained.

10. It is recommended that the four community colleges located in Cuyahoga County, Lake County, Lorain County, and Montgomery County continue to operate as at present, offering two-year programs in general studies and in technical education. It is recommended that the instructional charge of community colleges to out-of-county students should not be higher than the instructional charge of university branches.

11. The Ohio State University should operate an Ohio Agricultural Institute conferring associate degrees in agricultural technologies. This Technical Institute is located on the grounds of the Ohio Agricultural Research and Development Center in Wooster and is administered through the College of Agriculture of the University.

12. The University of Cincinnati should continue to provide technical education in selected technologies through the Ohio College of Applied Science.

13. It is recommended that the University of Akron, the University of Toledo, and Youngstown State University should each continue to operate a Community and Technical College offering two-year programs in general studies and in technical education.

14. It is recommended that the designation of technical institutes should be changed by law to that of technical colleges. In addition to the technical institutes existing as of December, 1970, the Ohio Board of Regents should give consideration to the desirability of establishing new technical colleges in Belmont County, Washington County, and Miami-Shelby-Darke Counties. Technical colleges should offer a two-year program in technical education in accordance with the curriculum standards established by the Ohio Board of Regents.

15. It is recommended that the designation of public university branches should be changed to that of General College or to that of General and Technical College. A General College of a public university should offer a two-year program in general studies and should be so designated when other facilities are available for technical education. A General and Technical College of a public university should offer two-year programs in general studies and in technical education. In addition to the 19 branches of public universities in existence as of January, 1971, the Ohio Board of Regents should consider the establishment of new university branches in Clermont County, in the Wayne-Medina-Holmes Counties area, and in Geauga County. It is desirable that the operation of university branches should be specifically authorized by law and that associate degrees in general studies and in technical education should be required by law for satisfactory completion of the prescribed two-year programs of study. Public universities operating a General College or a General and

Technical College in a community should appoint a local advisory committee of from seven to nine members to consult with the college administrative officer. It is desirable that maximum feasible administrative and academic autonomy be delegated to general colleges and to general and technical colleges, and that the mission of these colleges should be clearly defined in terms of two-year programs of general studies and of technical education.

16. The creation of additional new two-year campuses should be approved by the Ohio Board of Regents when two conditions exist: (1) there is a reasonable expectation of a potential enrollment of 1,000 full-time equivalent students by 1980, and (2) there is no other public two-year campus available within an approximate 30 mile radius of the area to be served by a proposed new two-year campus.

17. Where a technical college and a university general college have been established in the same community, it is desirable in the interests of student satisfaction and of economical management to achieve maximum possible cooperation in the operation of these separate institutions. Such cooperation at a minimum should include joint use of a common campus with common support and service facilities such as library, student center, parking, and student activities. Such cooperation might also include the appointment of a common administrative officer, or a common business officer, or a common student services officer.

18. It is recommended that a new provision of law be enacted which would permit a technical college to change its status to that of a state general and technical college if the board of trustees should so request and the Board of Regents should so approve. It is also recommended that this new provision of law should permit a technical college and a university general college to be merged into a single state general and technical college upon the joint request of the boards of trustees of the two colleges, with the approval of the Board of Regents. In the event of the creation of a state general and technical college, the initial board of trustees of the new institution should be the board of trustees of the former technical college, plus such additional number of trustees appointed by the Governor as may be needed to provide a board of nine members. All replacement appointments thereafter should be made by the Governor and confirmed by the Senate. It is desirable that boards of trustees of a state general and technical college should be comprised primarily of persons from the area served by the college. The state general and technical college would be a comprehensive two-year institution of higher education offering programs in general studies and in technical education under one common management. Financial support of a state general and technical college would be provided from student fees, state subsidies, federal government loans and grants, and private gifts.

19. Each two-year campus should provide for open admission of high school graduates. It is urged that all two-year institutions of higher education clearly define their educational mission and seek full accreditation status as soon as possible. It is not desirable that the State of Ohio should provide subsidy support for any two-year campus which does not achieve an acceptable standard of instructional activity.

20. In accordance with the recommendations about organization structure of two-year campuses set forth herein, the initial arrangement for two-year institutions of higher education in Ohio as of 1971 would be as follows, together with potential enrollment objectives:

	FTE Enrollment Objective
Community Colleges	
Cuyahoga Community College (2 campuses)	20,000
Lakeland Community College	5,000
Lorain County Community College	5,000
Sinclair Community College	9,000
	39,000
University Community and Technical Colleges	
Community and Technical College, University of Akron	7,500
Community and Technical College, University of Toledo	6,500
Community and Technical College, Youngstown State University	6,500
	20,500
Agricultural Technical Institute	
The Ohio State University	1,000
Ohio College of Applied Science	
University of Cincinnati	1,000
Technical Colleges	
Cincinnati Technical College	5,000
Clark County Technical College*	4,500
Columbus Technical College*	10,000
Hocking (Tri-County) Technical College	1,800
Jefferson County Technical College	1,500
Lima Technical College	1,000
Marion Technical College	800
Maumee (Penta) Technical College*	3,500

Miami-Shelby-Darke Technical College	1,600
Muskingum Technical College	1,200
Newark Technical College	1,000
North Central Technical College	1,200
Northwest (Four-County) Technical College*	1,800
Scioto Technical College	1,000
Stark County Technical College	2,500
Vanguard Technical College*	1,500
Belmont Technical College	600
Washington Technical College	500
	41,000

* These technical colleges might be established as State General and Technical Colleges.

University General and Technical Colleges

Ashtabula General and Technical College	
Kent State University	2,500
Chillicothe General and Technical College	
Ohio University	1,500
Clermont General and Technical College	
University of Cincinnati	1,500
Columbiana General and Technical College	
Kent State University	1,500
Firelands General and Technical College	
Bowling Green State University	1,500
Geauga General and Technical College	
Kent State University	1,000
Hamilton General and Technical College	
Miami University	2,500
Lancaster General and Technical College	
Ohio University	2,000
Middletown General and Technical College	
Miami University	2,500
Trumbull General and Technical College	
Kent State University	4,500
Tuscarawas General and Technical College	
Kent State University	1,500
Walters General and Technical College	
University of Cincinnati	4,500
Wayne General and Technical College	
University of Akron	2,500
	29,500

University General Colleges

Belmont General College	
Ohio University	1,000
Lima General College	
Ohio State University	2,500
Mansfield General College	
Ohio State University	2,300
Marion General College	
Ohio State University	1,200
Newark General College	
Ohio State University	1,000
Portsmouth General College	
Ohio University	1,000
Stark General College	
Kent State University	3,000
Western Ohio General College	
Wright State University	1,000
Zanesville General College	1,000
	14,000

21. It is recommended that Bowling Green State University offer a continuing service of instructional liaison and assistance to technical colleges in northwestern Ohio. It is recommended that Ohio University develop close cooperative relationships with technical colleges in southeastern Ohio. It is recommended that Kent State University develop cooperative relationships with Cleveland State University, Youngstown State University, and the University of Akron for effective liaison in the operation of general and technical colleges in northeastern Ohio.

22. The Board of Regents requests state universities operating general colleges and general and technical colleges to study the possibility of offering the third and fourth year of elementary teacher education through residence credit centers located at such colleges where a minimum enrollment of 125 full-time equivalent students can be ensured, where other necessary resources can be provided, and where accreditation standards of instruction can be maintained. In particular, these possible locations for such instruction should be considered: Ashtabula, Chillicothe, Firelands, Lima, Mansfield, and Zanesville. It must be understood that enrollment in these residence credit centers counts as on-campus enrollment and must be accommodated within the campus enrollment limitations. Any such programs should be approved by the Board of Regents in accordance with the requirements of Section 3333.04(N) of the Revised Code. Furthermore, no such new degree program should be undertaken without an appropriation of instructional subsidies for 125 full-time

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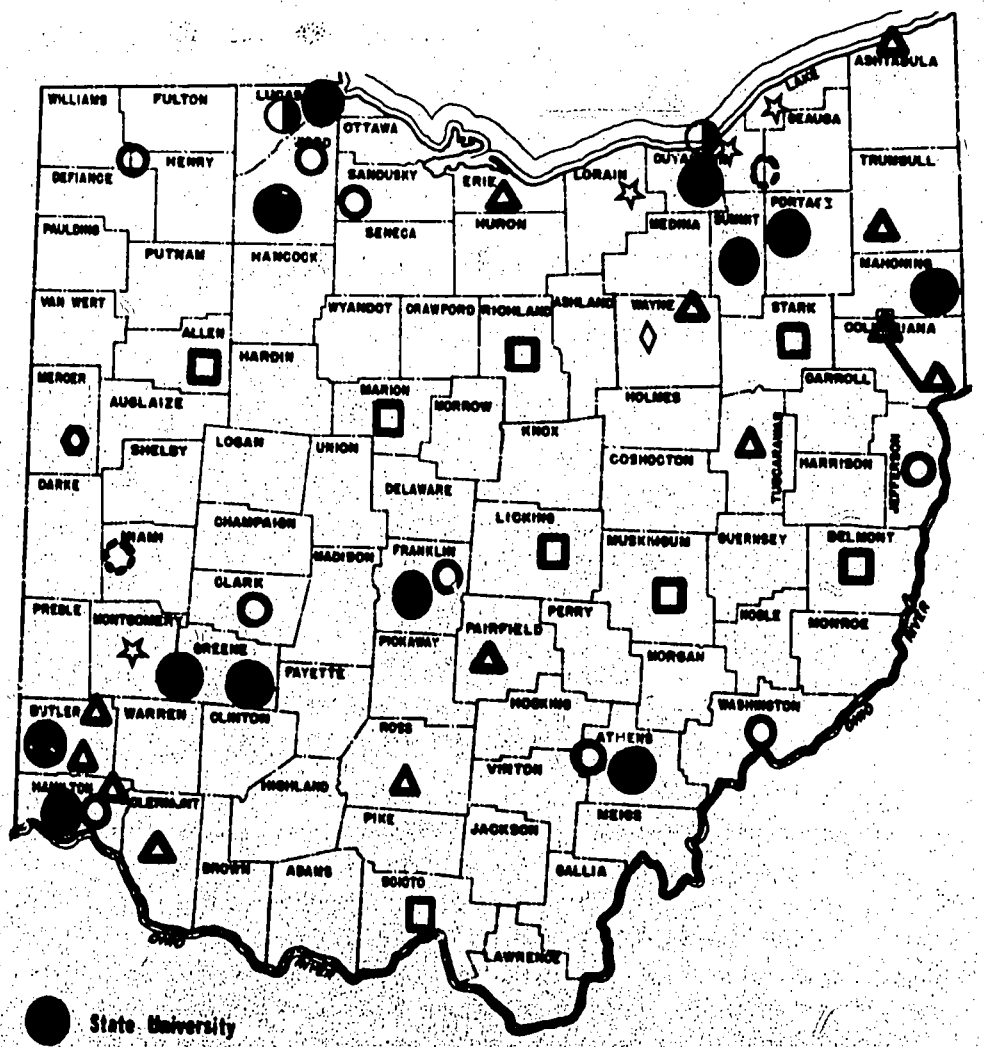

equivalent students regardless of actual enrollment during a development period of two-biennia.

23. Public universities should be cautious in undertaking to offer off-campus instruction at the upper-division and graduate (Master's) degree level. It is recognized that there are substantial pressures from school districts, from business, and from professional groups who wish to have enrollment opportunity available on a part-time basis within convenient commuting distance. Within some limits and with proper concern for the quality of instruction provided, such off-campus instruction may be offered. Enrollment in such courses is a part of campus enrollment and must be handled within campus budgetary and other limitations.

24. It is recommended that each public institution of higher education prepare its own educational plan of instructional programs to be offered, with appropriate full-time equivalent student enrollment for each program. This educational plan should be transmitted to the Ohio Board of Regents for its information and for its use in considering the approval of new degrees and new degree programs.

VI. INSTRUCTIONAL PROGRAMS AND MANPOWER PLANNING

1. Although higher education is a personal satisfaction for the individual who seeks the fullest possible development of his intellectual capacity, higher education also involves the preparation of persons to fill the para-professional, professional, and managerial positions of a complex economy and society with a highly sophisticated state of technology. The introduction and expansion of para-professional and professional programs of higher education should be undertaken only in response to a careful analysis of the manpower demand for persons of advanced educational preparation.

2. Institutions of higher education have an obligation to provide all available information to students about the demand and supply situation for persons of educated talent.

3. It must be recognized by all concerned that manpower planning is at best an inexact science, that the future demand for educated talent cannot be forecast with accuracy, and that changing economic circumstances result in substantial fluctuations in the employment demand for persons of a particular educational preparation.

4. Although professional placement is a necessary and proper part of professional education, it must be realized also that no institution of higher education can guarantee professional placement for all its graduates.

There is an individual risk which each person must assume in undertaking a higher education program. Because of changing employment conditions, because of changing personal physical and health standards, and because of changing intellectual standards, professional placement may not be available at the conclusion of a professional education program.

5. Some persons who undertake a para-professional or professional program of study may not desire to engage in professional practice, or may desire to engage in professional practice only on a part-time basis or on a periodic basis. Some expectation of slippage between those completing a professional program of study and those entering upon the practice of a profession should be expected.

6. It is undesirable social policy to educate at the higher education level a substantial number of persons for professional practice in excess of effective demand in the economy for persons of that profession.

VII. INSTRUCTIONAL PROGRAMS: GENERAL STUDIES

1. Higher education has as one of its instructional objectives the encouragement of students in the development of a general comprehension of and interest in the whole range of man's intellectual achievement. In the words of the well known Harvard report of 1945, general education looks to that part of a student's life as a responsible human being and citizen, as contrasted with special education which looks to the student's competence in some occupation. The ends of general education, again in the words of the Harvard report, are "to think effectively, to communicate thought, to make relevant judgments, to discriminate among values." It is such a general education which is here designated "general studies."

2. The general studies objective in higher education is more than to provide a student with a general intellectual competence. General studies have a more specific relevance: to suggest to the student the intellectual foundation upon which his or her particular interest in a para-professional or professional competence is based. The application of knowledge to specific problems—agricultural production, architecture, business management, engineering, health, school teaching, social welfare—will change as knowledge changes. The professional practitioner must know more than the knowledge and skill of the moment; he must understand how his or her knowledge developed to its current state and how this knowledge is likely to develop tomorrow.

3. Colleges and universities have for years, decades, even centuries professed a general studies objective. At the same time, they have been singularly unsuccessful in providing reason, reality, and relevance to their concept of general studies. A program of general studies is a continuing,

unanswered challenge to all who teach and learn within our institutions of higher education. This challenge is very real in the public universities and colleges of Ohio.

4. All community colleges, state community technical colleges, and public universities should offer a general studies program or curriculum. A general studies program should be expected to include the following components: communications, social and behavioral sciences, biological and physical sciences, mathematics, humanities and art, and health and recreation.

5. Each institution of higher education should give continuing attention to the evaluation of its objectives and performance in general studies, and to the restructuring of its curriculum and the improvement of its instructional technology in general studies. In particular, special attention should be given to the inter-relationship of human experience with the human understanding of that experience through verbal and logical abstraction.

6. The inclusion of some kind of instruction in appreciation of the performing arts may be a desirable part of a general studies program, and more attention needs to be given to this matter in the state's higher education institutions.

7. In order to promote an exchange of experience in the conduct of a general studies program and in order to encourage inter-institutional acceptance of course credits in general studies, one or more committees on general studies should be established on an inter-institutional basis and should function continuously.

8. A general studies program should be recognized as supportive of all specialized programs of instruction.

VIII. INSTRUCTIONAL PROGRAMS: TECHNICAL EDUCATON

1. Technical education should be understood as a post-high school program of instruction intended to educate individuals with technical and para-professional competencies to function in support of professional, administrative, and managerial personnel, or to perform services at the professional associate level of knowledge and skill.

2. Of some 195,000 students on a head-count basis and of some 146,000 full-time equivalent students expected to be enrolled in two-year programs as of 1980, it is to be hoped that half or more will be enrolled in technical education curricula. As many as 50,000 associate degrees in technical education should be the state objective for 1980, compared with 4,000 such degrees in 1969-70.

3. Technical education should offer two-year programs in business technologies, health technologies, engineering technologies, public service technologies, agri-business technologies, and home economics technologies. All technical education program offerings should be closely correlated with community or area employment demand. The distribution of program enrollment by numbers of students should be determined by area labor market requirements. The offering of agri-business technologies should be limited.

4. In approving degree programs in technical education, the Ohio Board of Regents should continue to expect that approximately one-half of all course credits of course instruction should be devoted to technical courses clearly identified with the knowledge and technical skill required for competence in a particular technology. Technical education curricula afford a particularly useful opportunity for cooperative education alternating periods of instruction with periods of on-the-job experience.

5. Programs in engineering technologies are being offered in such varied fields as aviation, construction, civil, electrical-electronics, ceramic, mechanical, engineering, drafting, chemical, water pollution, electro-mechanical, instrumentation, and surveying technologies. A high degree of specialization in programs and in courses in the engineering technologies should be avoided as a possible hindrance in job placement. The equipment needs of these programs are extensive and expensive. Increasing attention must be given to the differentiation between vocational education at the secondary school level, the engineering technologies, and engineering education at the university level.

6. Programs in business technologies are being offered in such varied fields as accounting, advertising, data processing, banking and finance, credit management, marketing and merchandising, office management, personnel management, procurement management, real estate, restaurant management, hotel-motel management, secretarial studies, transportation management, and wholesale trade. Proliferation of individual job titles within business technology programs is not desirable, and some concentration of effort in certain well defined fields is desirable (clerical and related occupations, managerial occupations, sales occupations, accounting, data processing).

7. Programs in health technologies are being offered in such varied fields as dental hygiene, dental laboratory technology, environmental health, laboratory animal science, medical assistance, medical laboratory technology, medical secretary, medical records technology, nursing, and X-ray technology. These programs should expand as the needs of agencies and individuals providing health care may require. Shortages of such personnel are expected to continue throughout the decade of the 1970's.

8. Programs in public service technologies are being offered in such varied fields as law enforcement, fire science, education technology, library technology, recreation technology, social work and community service technology, and urban planning technology. The role of the para-professional personnel in most of these fields requires continuing evaluation, and programs should be expanded only in response to definite requirements developed by professional and managerial personnel of government agencies.

9. Programs in agricultural and natural resources technologies are being offered in such varied fields as agri-business management, animal care, agricultural equipment technology, horticulture, food processing, soil conservation, plant science and turf management, natural resources technologies, and forestry technology. Agri-business technologies tend to be expensive to offer and to entail only a limited demand for graduates. These programs are important to the food production and horticultural needs of the consuming public. Programs in home economics technologies are being offered in child development, food service, nutrition, and family life. There is an increasing demand for personnel educated in the home economics technologies as more and more family related services are being sought by individuals and families in Ohio.

10. In all the different kinds of technical education, there are many needs which must be met in the decade of the 1970's: improved public understanding of the importance of technical education, appropriate instructional staffing, improved instructional materials, necessary facilities and equipment, adequate student counseling and placement, and essential financial support.

IX. INSTRUCTIONAL PROGRAMS: BACCALAUREATE GENERAL

Arts and Sciences

1. The baccalaureate programs in Arts and Sciences serve a dual purpose: they offer the individual student a general education and at the same time provide a pre-professional foundation in order for the individual to undertake graduate professional study or graduate study. The Arts and Sciences embrace the five great branches of traditional "liberal" learning: the humanities and arts, the social and behavioral sciences, the biological sciences, the physical sciences, and mathematics. As of 1970, the baccalaureate programs in Arts and Sciences awarded about 35 percent of all bachelor's degrees conferred by Ohio's public universities.

2. From approximately 9,250 bachelor's degrees in Arts and Sciences conferred by Ohio's public institutions of higher education in 1969-70, the

enrollment objectives set forth in this Master Plan anticipate that approximately 15,000 such degrees will be conferred as of 1979-80. The distribution of these degrees, if extrapolated upon the basis of past experience, may be expected to be about as follows: 35 percent in humanities, 35 percent in the social and behavioral sciences, 14 percent in the biological sciences, 8 percent in the physical sciences, and 8 percent in mathematics.

3. The Arts and Sciences, if assigned the task of providing the general studies program and the basic subject matter content for professional programs, may be expected to carry as much as 65 percent of all credit hours of undergraduate instruction in a public university. It is essential that departments in the Arts and Sciences improve their liaison with professional instructional divisions of a university to make certain that the liberal education component develops well-informed people who are aware of the capacities of individuals, the needs of society, and the responsibilities of persons and groups in a complex world. The Arts and Sciences need to be aware of the particular needs of students in various professional programs. The alternative may be that professional divisions will develop their own components to offer the Arts and Sciences courses.

4. In general, the major areas of study or concentration within Arts and Sciences are quite well established: in the Humanities—English, classical languages, modern foreign languages, humane learning (appreciation of the performing arts and architecture), speech, philosophy, and religion; in the Social and Behavioral Sciences—anthropology, economics, geography, government, history, psychology, sociology, and social statistics; in the Biological Sciences—biology, bio-chemistry, bio-physics, botany, genetics, micro-biology, and zoology; in the Physical Sciences—astronomy, chemistry, earth science or geology, and physics; and Mathematics (theoretical and applied). Inter-disciplinary areas of concentration may be established such as American studies, European studies, Asian studies, African studies, Black studies, computer science, conservation and environmental studies, international studies, population studies, and urban studies. In developing its undergraduate program offerings and curricular patterns, public universities are urged to avoid three common faults: (1) undue proliferation of courses with small enrollments and a high degree of specialization in subject matter content; (2) emphasis upon abstract knowledge without clear-cut indication of its relevance to and foundation in human experience; and (3) neglect of the instructional importance of baccalaureate courses in favor of attention to instruction at the master's degree and doctoral degree level.

5. New programs in the Arts and Sciences should be carefully evaluated to determine whether or not they represent the addition of a "normal" component of the expected program specializations within the field. If a proposed new program is in a highly specialized subject of

study, such as the Chinese language, Russian language, Greek language, aeronautics, entomology, biophysics, and astrophysics, then the need for such an additional program among Ohio's public institutions of higher education should be carefully reviewed.

6. It is recommended that further consideration be given by the Board of Regents and by public universities to meaningful ways in which the quality of instructional activity in the Arts and Sciences might be evaluated. There is a need to stimulate efforts to improve such instruction and to convince the public that Ohio's public universities do offer programs in the Arts and Sciences of first quality. There is no external examination or professional licensing procedures in the Arts and Sciences, although the Graduate Record Examination and the Miller Analogies Test provide a partial method of evaluating student achievement.

Business Administration

1. Professional education in business administration has been the third largest instructional program at the baccalaureate level in Ohio's public universities. All public universities offer this program, and the degrees awarded constitute approximately 20 percent of all bachelor's degrees. Because of the continuing need for managerial and specialized staff skills in American business, public universities should continue and should strive to improve their baccalaureate programs in business administration.

2. The demands upon and expectations from managerial skills in business are such that the baccalaureate program in business administration must give increased attention to analytical techniques, the capacity for problem-solving, organizational competence, and the social obligations of business enterprise. Increasingly, business managers must have an understanding of and the capacity to cope with the external environment, the social context, of business. Baccalaureate programs in business need to be reassessed and redesigned with these needs in mind. These programs also need the staff and other resources required to achieve the desired improvements in instructional effectiveness.

3. The long-term prospect is for a shortage rather than oversupply of graduates at the baccalaureate level in business administration. It is desirable that undergraduate enrollments in this program be increased from the approximately 23,000 students as of 1969-70 to as many as 40,000 in 1979-80.

Teacher Education

1. Teacher education is the professional preparation of individuals to provide instruction, special services, and the administrative management for the pre-school, elementary school, intermediate school, and secondary school of the state and nation. The objective of teacher education is to

provide the best possible instruction and management for the schools of our society. All twelve public universities in Ohio are engaged in teacher education. The total enrollment at the baccalaureate level was some 34,500 students in 1969-70, and the total number of bachelor's degrees awarded came to around 6,800. Next to degrees in arts and sciences, teacher education is the second largest instructional program at the baccalaureate level for Ohio's public universities.

2. The demand for school teachers in Ohio is expected to decline during the decade of the 1970's. An estimate of new teachers to be hired by Ohio's public schools prepared for the Ohio Board of Regents indicates that 7,500 new teachers were needed in 1970; that 5,600 new teachers will be needed in 1975; and that 5,900 new teachers will be needed in 1980. Including the output of private colleges, we are informed that the total number of persons obtaining teaching certificates in Ohio will be around 11,000 a year. Moreover, enrollment in teacher education may increase during the decade of the 1970's so that the oversupply of teachers could be much worse by 1980 than in 1970.

3. The Board of Regents urges public colleges of education to restrict enrollment to current levels, to invest in research and development in teacher education and in manpower needs, and to undertake large scale improvements needed in teacher education.

4. It is important for colleges of education to obtain continuing analytical data indicating supply and demand for teachers by levels of the Ohio school system (pre-school, elementary, intermediate, and secondary), and by areas of specialization (art and music, English and language arts, foreign languages, mathematics, sciences, social studies, physical and health education, industrial arts, vocational education, special education, and counseling). Up to 1975 it appears that there will be shortages rather than overages in the supply of teachers of sciences, industrial arts, home economics, mathematics, the arts, vocational education, and counseling.

5. The Ohio Board of Regents should not approve any enrollment expansion in baccalaureate programs of teacher education in the light of the currently known facts about teacher supply and demand in Ohio during the decade of the 1970's.

X. INSTRUCTIONAL PROGRAMS: BACCALAUREATE PROFESSIONAL

Agriculture

1. The State of Ohio offers professional education in agriculture at the baccalaureate (and at the graduate) level only at The Ohio State University through its College of Agriculture and Home Economics. Although a declining proportion of the American labor market is devoted

to farm operations and management, continued attention to agricultural instruction, research, and continuing education is needed in order to provide the necessary output of food and fiber for domestic and foreign markets and in order to ensure efficient food processing and distribution.

2. The undergraduate enrollment in agriculture and forestry at The Ohio State University should be expected and planned to increase from 1,620 students in 1969-70 to 2,000 students in 1979-80. Ohio students interested in obtaining professional education in agriculture at the bachelor's degree level must be accommodated at Ohio State since no other baccalaureate program will be established in the state. The number of baccalaureate degrees conferred in agriculture and forestry should be expected to increase from 465 to about 570 by 1980. Experience has indicated that of those students obtaining a baccalaureate in agriculture and forestry (when studied five years after receiving their degrees), about 45 percent have employment in business and industry, about 25 percent in education, about 10 percent in farm management, about 15 percent in public service, and about 5 percent will be pursuing graduate study.

3. There is a growing interest in the study of natural resources, and a School of Natural Resources has been established as a part of the College of Agriculture and Home Economics at The Ohio State University. Instruction in natural resources now includes specialization in conservation and outdoor education, fisheries and wildlife management, forest industries, forest science, park administration and outdoor recreation, and natural resources development.

Allied Medical Professions

1. Apart from the field of nursing to be considered later, there are several baccalaureate programs which prepare individuals to serve in allied medical professions as essential co-workers in a health team. These programs include medical technology, medical dietetics, dental hygiene, medical communication, occupational therapy, and physical therapy. There is a School of Allied Medical Professions attached to the College of Medicine of Ohio State, but there are also one or more baccalaureate programs in medical technology, physical therapy, and dietetics at ten other state universities. Most of these programs suffer from a lack of sufficient enrollment to meet the demands for such talent, or to support strong instructional activity.

2. Special efforts should be made to strengthen baccalaureate programs in allied medical professions through increased enrollment, through increased financial support, through improved facilities, through better faculty members, through more effective methods of instruction.

3. Other than the programs offered at The Ohio State University, baccalaureate programs in allied medical programs which do not reach a

reasonable enrollment in relation to required resources should be discontinued.

4. There is a definite need for better manpower planning in the allied health professions, for more coordination of similar programs to ensure comparable standards, and for articulation between associate degree programs and baccalaureate programs in this field.

5. There is a need for additional baccalaureate programs in medical records administration. One such program now exists at Ohio State. At least one other university with appropriate staff and other resources should develop such a program.

6. The Board of Regents and the public universities should give further attention to planning activity in this field of study. The extent of the employment demand for allied medical professional personnel is not clear at present, but concerted efforts are needed to increase enrollment and degrees granted in thse fields of study.

Architecture

1. Professional programs in architecture at the baccalaureate level are currently offered at five public universities: Cincinnati, Kent State, Miami, Ohio, and Ohio State. The Board of Regents should not approve any baccalaureate programs beyond those now in existence.

2. There is a need to expand enrollments in baccalaureate programs from approximately 1400 full-time students to approximately 1600 full-time students by 1980, with the expectation that each program will have a minimum of 300 students by that time.

3. There is a tendency at present for the five-year baccalaureate program in architecture to be replaced by a four-year program in environmental design, with two years of further education required in order to obtain the degree Master of Architecture. Although some diversity in program content and emphasis among the five universities is desirable, it is recommended that some common standards of program activity and degrees awarded should be developed.

4. There is a need to ensure that the facilities are adequate to the enrollment and the instructional activity in architectural programs, and that these meet accreditation standards.

The Performing Arts

1. All state-assisted universities offer baccalaureate programs in the performing arts: art, design, music, dance, drama. The total enrollment at the undergraduate level is around 8000 students, and the number of bachelor's degrees awarded was about 1600 as of 1969-70. Some enrollment expansion should be accommodated during the 1970's, but the talent available for such enrollment is uncertain.

2. Baccalaureate programs in the performing arts confront a troublesome complexity: to place emphasis upon individual competence as a performer or to place emphasis upon individual competence to instruct others in the techniques of performance and in the appreciation of performing talent. Opportunities for individual performance on a full-time professional basis are relatively limited, and the performing artist (painter, designer, musician, dancer, or actor) must often supplement his or her livelihood with other employment as a critic, as a teacher, or in some other capacity. Baccalaureate programs in the performing arts must afford a place for the person of general talent in addition to the individual of outstanding talent. The person of general talent may do much to assist in the advancement of the cultural awareness of the American public.

3. An important part of the mission of programs in the performing arts has been to provide exhibitions and performances within the academic community itself in order to afford all students an opportunity to observe artistic achievement and to develop an understanding of the vitality of artistic comment upon the human condition. This endeavor should be encouraged and should be extended on all campuses.

4. There is a shortage of adequate specialized instructional facilities for the performing arts according to the faculties engaged in this activity, and increased attention should be given to these needs.

Engineering

1. Baccalaureate programs in engineering are offered currently by eight public universities in Ohio. Along with those in four privately sponsored institutions of higher education, there is an adequate number of baccalaureate programs in engineering in Ohio.

2. The public institutions as of 1969-70 had an enrollment of approximately 10,000 students at the baccalaureate level, and awarded about 1600 degrees. It would be desirable to increase the number of bachelor's degrees awarded by 1979-80 to 2,500, with a corresponding increase in enrollment to approximately 15,000 students or a lesser enrollment with a higher proportion of all undergraduates completing the degree requirements.

3. As a profession in which knowledge of the physical sciences and of mathematics must be applied with judgment to practical problems about how to utilize the materials and forces of nature economically and usefully for the benefit of man, engineering demands high intellectual competence and definite individual skill in all its practitioners. The nature and extent of engineering study are undergoing considerable adjustment in order to reflect new or expanded requirements. The traditional four-year undergraduate program is being supplemented in some instances by the addition

of a fifth year leading to a master's degree as the first recognized professional degree. Moreover, traditional program objectives in civil engineering, chemical engineering, electric and electronic engineering, metallurgical engineering, and mechanical engineering are being supplemented by new program specializations such as environmental engineering, transportation engineering, energy production engineering, information systems engineering, and bio-medical engineering. Colleges of engineering need to re-evaluate and revise their programs of instruction to meet the changing requirements of engineering in a changing society.

4. Opportunities for qualified students to transfer into baccalaureate engineering programs at the sophomore and junior year levels should be maintained.

5. Baccalaureate programs in industrial technology are a useful supplement to engineering education, although the demand for these graduates remains uncertain. An industrial technology program may be useful in providing industry and other institutions with persons who have developed a practical ability to help solve immediate production problems, but such programs are not a substitute for the engineering science and engineering competence needed in the society of the 1970's.

6. Engineering education will require improved resources in faculty and facilities in the years ahead. Research will also become an increasingly important adjunct to engineering education.

Home Economics

1. Home economics is a professional field of study of the human and material forces affecting family life in the home and the application of this knowledge for the benefit of improved and effective family living. The generally accepted areas of study encompassed in the professional education of home economics are: (1) foods and nutrition, (2) clothing and textiles, (3) child development and family relations, (4) home management and family economics, and (5) household furnishings and equipment. Baccalaureate programs in home economics are offered in eight of the state-assisted universities. Total enrollment in these baccalaureate programs should be expected to increase from some 2,600 students in 1969-70 to around 4,000 students in 1979-80, and the number of bachelor's degrees awarded from around 600 to around 900.

2. Home economics is a professional field of study in which the number of graduates is substantially less than the demand for persons with such educational preparation for professional employment. About 55 percent of all professional home economists currently find employment in teaching, about 30 percent in dietetics, and the remainder in business, industry and government. Employment opportunities in dietetics and in business and government are expected to increase in the decade of the 1970's.

3. Baccalaureate programs in home economics face many new kinds of problems as the scope of professional opportunities for graduates in this field expands: problems in curriculum adjustment, in enrollment growth, in placement, and in professional association with para-professional personnel.

Journalism

1. Education in journalism has become increasingly education in mass communication, regardless of the media involved (the newspaper, radio, television, or other publications). Education in journalism has had to accommodate the need for subject matter competence (in literature and the performing arts, public affairs, science, sports, women's affairs, education) with competence in professional performance (gathering information, writing, editing, presentation, standards). Baccalaureate degree programs in journalism are currently offered at Bowling Green, Kent, Ohio State, Ohio, and Toledo. Instruction in journalism is available at five other state-assisted universities. Enrollments in baccalaureate programs number around 1800 students and degrees awarded have been around 370. Some small increase in enrollment and degrees granted should be expected in the 1970's.

2. There appears to be a need for one new baccalaureate program in journalism in southwestern Ohio.

3. Existing instructional programs do not apear to give sufficient attention to such subjects as the economics and management of mass communication, advertising, photo-journalism, broadcast journalism, and the graphic arts.

4. Baccalaureate programs in journalism must have the facilities and other resources to meet the accreditation standards of the American Council on Education for Journalism.

5. The relationship of instructional programs in journalism to campus newspapers at each university is in need of clarification and precise definition. A campus newspaper is considered a student activity undertaken as a service to students; the point of view is that of providing information and ideas of interest to students or even to particular groups of students. An instructional program in journalism needs a publication as a laboratory or as a practical exercise in newsgathering, writing, editing, and publishing. A laboratory newspaper must entail preparation for participation in the culture of American society, not just participation in the youth culture of a university campus. There is some question whether or not these conflicts in point of view can be reconciled in a single publication.

Nursing

1. The American Nurses Association has drawn a distinction between education for technical nursing practice and education for professional

nursing practice. Education for technical nursing practice requires as a minimum a two-year program resulting in award of the associate degree. Education for professional nursing practice requires as a minimum a baccalaureate program. Professional nursing practice entails direct patient care under general rather than close medical supervision, the supervision of technical nursing practice, and special nursing practice such as school nursing, industrial nursing, and extended care nursing. As of 1970 four state-assisted universities had been approved by the State Board of Nursing Education and Nurse Registration to offer baccalaureate programs in professional nursing practice. Enrollment in these programs came to 1,100 students and the bachelor's degrees awarded around 220. There is a need to increase this enrollment to around 4,000 students and to increase the number of degrees awarded to around 900 a year.

2. Enrollment expansion in baccalaureate degree programs makes it desirable to increase the number of public universities offering this program from four to seven. At present there are two public universities in northeast Ohio, one in central Ohio, and one in southwest Ohio offering baccalaureate programs in nursing. Consideration should be given to offering new programs at Cleveland, Dayton, and Toledo.

Pharmacy

1. The profession of pharmacy has undergone substantial change as a result of the remarkable development of the pharmaceutical industry in the United States. The community pharmacist — and about 85 percent of the 122,000 registered pharmacists in this country are engaged in community practice — has become primarily a dispenser rather than a compounder of drugs. In the future, the profession of pharmacy will move increasingly toward the business distribution of drugs (inventory control, purchasing, and marketing) or toward the concept of pharmaceutical service involving drug consultant service to physicians and nurses in addition to drug marketing. It is not yet clear in which direction the profession will move, and education in pharmacy is at the present time confused by this uncertainty.

2. It seems desirable in Ohio that baccalaureate programs in pharmacy at public institutions should be oriented in the direction of education of the pharmacist to be a drug expert in a community or as a member of a health care team. This will mean more intensive education in human biology and in clinical sciences.

3. Of the four colleges of pharmacy in Ohio, three are parts of public universities. The total enrollment of the three colleges in 1969-70 at the baccalaureate level was about 675 students, and the total number of bachelor's degrees awarded was around 150. The baccalaureate program is one of five years duration. The five-year program should be continued, with appropriate changes in curriculum content to reflect the changing

nature of the profession. Expansion of enrollment in pharmacy education will depend upon the determination of new directions in the pharmacy profession, new directions which seem likely to become more clearly defined in the next few years.

4. Additional study should be given by the Board of Regents to the possibility and desirability of encouraging the development of two-year programs in pharmacy technology.

Social Work

1. Professional education in social work at the baccalaureate level seeks to enable individuals to acquire the knowledge and skill needed to assist families and persons meeting adverse circumstances of poverty, delinquency, probation, imprisonment, and other social problems. Such education consists usually of courses involving knowledge, practice, and field experience. As of 1969-70, seven public universities offered courses in social work. Five public universities offered a baccalaureate degree program in social work. All twelve public universities were members of the Council on Social Work Education, the accrediting agency in the field. The total enrollment in baccalaureate programs as of 1969-70 came to around 950 students and the number of bachelor's degrees awarded to some 230. It is desirable that the enrollment should be increased to around 2,500 students and the number of degrees to around 600.

2. There is a continuing need for baccalaureate programs in social work, and the professional objective and content of these programs should be strengthened. Innovation and flexibility appear to be major needs in education for the "helping profession." Public universities offering courses in social work should review their programs and decide whether or not it is desirable and feasible to upgrade these courses to full professional baccalaureate status meeting accreditation standards applicable to such status.

3. At the baccalaureate level, it appears desirable to recognize two or three areas of major interest in the professional education of social work personnel: family assistance, corrections, and probation and parole. These should be areas of concentration rather than differentiated degree programs. The appropriate degree to be awarded for any one of these concentrations should be the Bachelor of Science in social work.

4. It is desirable that the expansion and improvement of baccalaureate programs in social work should be undertaken by the public universities in accordance with a state-wide division of specialization in order to avoid duplication and expense of instruction which would produce more professional personnel than needed. It is particularly desirable to encourage programs involving experimentation and innovation in providing help to individuals and families, programs which depart from traditional ideas about social work.

XI. INSTRUCTIONAL PROGRAMS: MASTER'S LEVEL

Arts and Sciences

1. The master's degree in the various disciplines of the Arts and Sciences represent essentially a first professional degree in the scholarship of the particular specialization. The degree may be terminal or it may be preparatory to further graduate study and research. The degree may be important in preparing an individual for specialized work in business, government, secondary school teaching, higher educational instruction, or other activity. In some disciplines, as in chemistry and physics, there is a disposition on the part of certain scholars to believe that a master's degree is unnecessary and that the graduate student should have as his original objective the completion of requirements for a doctoral degree. The Board of Regents recommends that the master's degree in the various disciplines of the Arts and Sciences should be regarded as a useful and necessary degree and as an integral part of graduate study.

2. Eleven of the twelve public universities offer a considerable number of master's degrees programs in the Arts and Sciences. It would appear to be desirable for Central State University to cooperate with Wright State University and possibly other state universities in offering master's degree programs.

3. As of June 30, 1970, the number of approved master's degree programs in the Arts and Sciences offered by the public universities varied substantially. The Ohio State University offered master's degree programs in practically all disciplines and in many specializations (such as Slavonic languages). The University of Cincinnati offered master's degree programs in the Arts and Sciences on a comprehensive basis. Older public universities such as Akron, Bowling Green, Kent, Miami, Ohio, and Toledo offered a substantial number of master's degree programs. The newer state universities such as Cleveland, Youngstown, and Wright State were just beginning to develop these programs. The enrollment in master's degree programs in 1969-70 for all public universities came to almost 19,000 students, both in the Arts and Sciences and in professional fields of study. It is estimated that about 35 percent of all these enrollments were in the Arts and Sciences, and on an autumn head count basis these enrollments came to about 6,500 individual students. By 1980 it should be expected that on a autumn head count basis this enrollment would increase to around 13,000 students. The number of master's degrees awarded by public universities in the Arts and Sciences in 1969-70 was approximately 1,700. It should be expected that the number of such degrees would amount to 3,300 by 1980.

4. As rapidly as feasible in the light of available staff and other resources, the newer state universities should develop master's degree programs in the basic disciplines of the arts and sciences: English, speech,

two or three modern foreign languages, philosophy, American and Western European history, economics, geography, government, general psychology, sociology, biological sciences, chemistry, physics, geology, and mathematics. Inter-disciplinary programs should also be given consideration.

5. All master's degree programs should be carefully evaluated in terms of employment demands and should be designed to meet definitely established needs of a metropolitan area or of a profession.

6. Highly specialized master's degree programs in the Arts and Sciences, such as in archaic and little used languages, should be offered only at The Ohio State University and the University of Cincinnati.

Professional Fields—General

1. The master's degree is increasingly becoming an indispensable degree in professional education beyond the baccalaureate. The degree is widely regarded as further desirable professional specialization in such fields as agricultural science, architecture, the performing arts, business administration, engineering, home economics, journalism, nursing, pharmacy, and teacher education. The master's degree is generally expected as minimum preparation for individuals entering upon higher education instruction in these fields, and the degree is useful for professional practitioners as well. In some fields, such as library science, public administration, and social work, the master's degree may be considered as the first professional degree; a similar development is being considered in such professional fields of study as architecture and engineering. Even in fields of graduate professional education such as law, dentistry, medicine, optometry, and veterinary medicine there are master's degree programs entailing special preparation for instruction and research in these areas. It seems evident that the master's degree will continue to grow in importance during the decade of the 1970's as a professional degree.

2. Of nearly 6,000 master's degrees awarded by Ohio's public universities in 1969-70, 70 percent or 4,300 such degrees were in professional fields of study. Six out of ten of these master's degrees in professional study were awarded in teacher education. The next two most important fields were business administration and engineering. The total enrollment at the master's degree level in professional fields of study is estimated to be around 12,500 students. This enrollment may be expected to advance to 20,000 students during the 1970's and the number of degrees awarded to 6,000.

Agriculture

1. In 1969-70 there were some 210 students enrolled at the master's degree level in agricultural specialties at The Ohio State University. The number of master's degrees conferred was around 40. It is anticipated that this enrollment will increase during the decade of the 1970's.

Allied Medical Professions

1. A master's degree program in hospital administration is currently offered at The Ohio State University. In addition, the University offers a master of science degree to provide instructors for associate degree and baccalaureate programs in medical dietetics, medical technology, occupational therapy, physical therapy, and other allied medical professions. These enrollments will hopefully expand as more instructors are needed at the associate degree and baccalaureate levels.

The Performing Arts

1. Master's degree programs in art, music, theater, design, and dance are currently offered by seven public universities with an enrollment of approximately 1,100 students as of 1969-70. It appears that most of these students are either school teachers or are preparing to become teachers; a few may be preparing to become instructors at the higher education level. There is some question whether or not additional programs are needed. An enrollment of 1,500 students would appear to be adequate to the estimated needs by 1980.

Architecture

1. If the Master of Architecture should become the first professional degree in architecture, the degree will need to be offered by the five public universities providing instruction in architecture. Otherwise a master's degree program in architecture to prepare individuals to teach in this field or to engage in some highly specialized area of professional practice should be limited to the University of Cincinnati and The Ohio State University. Enrollment in such special purpose programs should not be expected to be more than 150 students by 1980.

Business Administration

1. Master's degree programs in business administration are currently offered in nine public universities with an enrollment of around 1,800 students as of 1969-70. Nearly 600 degrees were conferred in this field. It seems evident that at least eleven public universities should offer this program and that enrollment will expand to at least 3,000 or perhaps 3,500 by 1980. In most instances, this program should be oriented primarily to assist the individual already employed in business in the area where the public university is located. A limited number of students should be enrolled in full-time study for a master's degree in business administration.

Engineering

1. Master's degree programs in engineering are currently being offered at all eight public universities with colleges of engineering. The enrollment as of 1969-70 was around 2,000 students and the degrees awarded were around 500. If the Master of Engineering should become

the first professional degree (in contrast with the Bachelor of Science in engineering at the baccalaureate level), then enrollment at this level of instruction would have to be increased four-fold in the decade of the 1970's.

Home Economics

1. Master's degree programs in home economics are being offered currently at five public universities with a total enrollment of about 160 students as of 1969-70. The primary objective in these programs is to prepare teachers at the college level. An expansion of this enrollment is urgently needed and should be increased at least to 300 students as of 1980. One additional program is needed in northwestern Ohio and some means of cooperation among institutions not now offering the program is highly desirable.

Journalism

1. Master's degree programs in journalism are being offered by three public universities, with a total enrollment of about 120 students as of 1969-70. These programs seek to assist individuals in developing highly specialized competencies in journalism practice and to prepare individuals as instructors in the field. There does not appear to be any need for additional master's degree programs in this field.

Law

1. There has been some discussion of the desirability of a program for the degree Master of Science in law which would prepare a person for a legal counseling or for an advisory role but not as a practitioner. Such a program needs much more extensive consideration and a clarification of objectives before it should be approved by the Board of Regents. There has also been discussion about the desirability of a new degree Master of Jurisprudence to follow after the Juris Doctor degree and to prepare individuals as instructors of the law. This kind of program also needs careful scrutiny before approval.

Library Science

1. Apart from educational preparation of individuals to serve as school librarians within the context of teacher education offered at eight public universities, there are two programs for the degree of Master of Library Science currently offered by two public universities of Ohio. The library science program at Kent State University has been accredited by the American Library Association; the library science program at the University of Toledo is seeking such accreditation. A third program has been approved for development at Wright State University. Although a consultant to the Ohio Board of Regents recommended the creation of a new program in library science, the Board has been advised by its library panel that no additional such programs are needed. It is imperative that the library

science program at the University of Toledo be improved so as to meet accreditation standards. Assuming that the program at the University of Toledo will meet accreditation standards, the Board of Regents believes that no new traditionally-oriented programs for the degree Master of Library Science should be approved. The Board does recommend that the master's and doctor's degree programs in computer science offered by The Ohio State University include a library application because of the unique opportunity for cooperation with Chemical Abstracts and Battelle Memorial Institute, as well as the new automated medical library now under construction.

Nursing

1. As of 1969-70, two public universities offered the degree of Master of Science in Nursing, with an enrollment of about 85 students. There is no need for any additional such programs, but the enrollment in these two programs should be increased to 300 students as soon as possible.

Optometry

1. In 1969-70, The Ohio State University reported five students as candidates for the Master of Science degree in optometry. The College of Optometry wishes to increase this enrollment to 30 students. The program is intended to provide instruction in clinical research to prepare optometrists for faculty positions. The Board of Regents recommends that an objective of 20 students a year be fixed for this program.

Pharmacy

1. The three colleges of pharmacy in public universities also offer a master's degree program. The graduate enrollment in two of these programs was quite small as of 1969-70 (3 and 5 students respectively). If these enrollments cannot be increased to 15 students each by 1973, the programs should be discontinued. The master's degree program at The Ohio State University should continue to operate at the current enrollment level.

Public Administration

1. As of 1969-70, only The Ohio State University had a professional program in public administration at the master's degree level. Consideration should be given to the possible need for such programs in Cincinnati, Toledo, Cleveland, and Akron for part-time students.

Social Work

1. As of 1969-70, only The Ohio State University among the public universities offered a Master of Social Work program with an enrollment of about 185 students. The objective of this program appears primarily to be one of preparing individuals as advanced practitioners. There is also a need to prepare individuals as supervisors and administrators and as instructors. As of 1969-70, approximately 185 students were enrolled for the master's degree at the School of Social Work in The Ohio State

University. The Board of Regents recommends that the enrollment in this program be held at current levels, and that three new schools be established on a cooperative basis in northeastern Ohio, northwestern Ohio, and southwestern Ohio with an enrollment objective of 50 students at the master's degree level for each school. The emphasis in these programs should be upon the need for instruction of supervisors, administrators, and instructors.

Teacher Education

1. All twelve public universities as of 1969-70 offered master's degree programs in teacher education, although one such program was being phased out. The total enrollment in these programs was around 6,000 students, and the number of degrees awarded was around 2,400. It is important that these programs be strengthened insofar as they relate to elementary and secondary school instruction. Programs in counseling, special education, and educational administration should be reviewed to ensure the realization of appropriate standards of content, practice, and performance.

XII. INSTRUCTIONAL PROGRAMS: GRADUATE PROFESSIONAL

Dentistry

1. As of 1970, there were two colleges of dentistry located in Ohio, one at The Ohio State University (public) and one at Case Western Reserve University (private). Approximately 82 percent of all dentists practicing in Ohio are graduates of one or the other of these two universities. The enrollment of the College of Dentistry at Ohio State in 1969-70 was 600 students, and the number of degrees as Doctor of Dental Surgery awarded came to 145. The size of the entering class in dentistry at The Ohio State University will be increased from 155 to 200 students as soon as facilities now under construction are completed. The size of the entering class at Case Western Reserve was increased from 67 to 92 students in 1969. Ohio's enrollment in the two colleges of dentistry represents 5.5 percent of that in all dental schools in the nation.

2. The extent of a possible shortage in the number of Doctors of Dental Surgery in the United States by 1980 has not been fully explored. The shortage, if any, will depend upon advances in preventive care (such as water flouridation) which may reduce the demand for dental care and changes in dental productivity achieved by means of auxiliary personnel, such as dental hygienists. There are forces at work to increase the demand upon dental care, such as expansion of insurance and medical benefit programs which may include dental as well as medical attention.

3. From all available data at this time, the Ohio Board of Regents concludes that there is no need for a new college of dentistry in Ohio for the decade of the 1970's. It is proposed that the Board seek legislative authorization to enter into a contract with Case Western Reserve University for the support of an increase in its program of dental education from an entering class of 92 students to an entering class of 110 students.

Law

1. Legal education in Ohio for the practice of law is strongly oriented toward preparation of an individual for general practice. Legal education in Ohio largely serves a student body drawn heavily from Ohio. Clinical experience and the problem approach to legal education are often lacking. Criticisms of legal education in Ohio include such items as: large classes, a high ratio of students to faculty, undue emphasis upon the case method of study, failure to provide a perspective of the law in the context of its distribution of societal values, and inadequate inculcation of professional standards and values.

2. Currently there are nine colleges of law in Ohio, of which five are component parts of five public universities. Of the four colleges of law operating under private sponsorship, Chase College of Law in Cincinnati is the only one without any university affiliation. It may be desirable for Chase College of Law to become affiliated with a public university.

3. The enrollment of the public universities in 1969-70 for the Juris Doctor degree came to 2,200 studentr, and the number of degrees awarded was around 540. Current planning anticipates an enrollment of 4,000 law students by 1980, and this appears to be adequate. There is no need for any additional law school in the public universities of Ohio, other than the possible absorption of Chase College of Law.

4. There is a place for part-time professional education in law, and none of the opportunities now provided for such study should be curtailed. Part-time legal education is best carried on in a university setting, in conjunction with full-time legal education, under careful standards of achievement, and with a limitation upon the period for completion of all degree requirements (such as five years).

5. Professional education for law practice should continue to be based upon a broad foundation of undergraduate education in the Arts and Sciences, should continue to evidence an academic-professional character, and should continue to develop the capacities and skills common to legal practice in general. There is a need for somewhat more diversified course offerings, for more individualized instruction, and for greater exposure to the realities of legal service in a complex, interdependent society. A possibly critical situation appears to be developing between legal education and the state examinations for admission to legal practice.

XIII. INSTRUCTIONAL PROGRAMS: DOCTOR'S LEVEL

Arts and Sciences

1. The Doctor of Philosophy degree represents the culminating point in formal education for a professional career as a scholar in one of the disciplines comprising the Arts and Sciences. The degree is supposed to evidence individual achievement in at least three behavioral characteristics which attest scholarly endeavor: mastery of the content of a specialized field of learning, mastery of the technique of inquiry in the specialized field of learning, and capability to apply both content and technique to instruction and research in the field. In the humanities and the social sciences, more than half of all professional employment is provided by higher education itself in its own instructional, research, and public service activities. In the biological sciences, physical sciences, and mathematics, there are extensive demands for scholars in business and industry and in government. The Doctor of Philosophy degree is one of great prestige for the individual who receives it; a Doctor of Philosophy degree program is widely regarded as a matter of academic prestige on the part of the university which offers it. As of 1969-70, nine public universities had been authorized to offer doctoral degree programs. The enrollment in these programs was estimated to be about 3,300 students, and the number of degrees awarded was around 450. Some continued expansion of doctoral degree programs in Arts and Sciences is essential during the decade of the 1970's.

2. The future demand for doctoral degrees in the Arts and Sciences is difficult to determine. There have been some reductions in this demand during the past year as a result of a slowdown in the rate of expansion of research supported by the federal government and in the rate of enrollment expansion within higher education. This slowdown may be temporary and further growth in demand during the 1970's is to be anticipated. At the same time, it is essential that overproduction be avoided and that standards of quality be maintained in the enrollment of doctoral candidates and in the award of doctoral degrees. Furthermore, careful attention must be given to the needs of business and government for personnel from the scholarly profession as distinct from the needs of higher education for such personnel.

3. It is recommended that the objective of Ohio's public institutions for award of doctoral degrees in Arts and Sciences by 1980 be fixed at 1400, and that this number be distributed among major disciplinary areas approximately as follows: the Humanities—275, the Social and Behavioral Sciences—375, the Biological Sciences—325, and the Physical Sciences and Mathematics—425. It is recommended that Ohio's public universities anticipate an enrollment of around 7,000 students in doctoral programs in the Arts and Sciences by 1980.

4. Formal enrollment of doctoral students should be planned to include as a maximum 135 quarter credit hours of instruction beyond 45 quarter credit hours of graduate study at the master's degree level, including 45 quarter credit hours of research instruction and up to 45 quarter credit hours of independent reading and seminar or tutorial discussion.

5. Increased emphasis should be given to the importance of doctoral students completing the degree requirements within a reasonable period of time after admission to candidacy for the doctoral degree. It is proposed that six years should be a reasonable time limit.

6. There is some current interest in the possibility of introducing a new degree for the preparation of college teachers. It has been proposed that this degree be designated Doctor of Arts (D.A.). Before the Board of Regents approves any such new degree and new degree program, careful consideration should be given to the proposals. Qualitative standards such as those established by the Council of Graduate Schools in the United States should be ensured.

7. Apart from consideration of quality in terms of faculty personnel and instructional facilities, the urban universities such as Cleveland State, Wright State, Youngstown State, the University of Akron, and the University of Toledo should give special attention in planning the development of doctoral degree programs to the needs for scholarly talent in their adjacent metropolitan areas.

8. Apart from considerations of quality in terms of faculty personnel and instructional facilities, Ohio University, Miami University, Bowling Green State University, and Kent State University should give special attention in planning the development of doctoral degree programs to the needs for scholarly talent within higher education.

9. Before approving new doctoral degree programs in the Arts and Sciences, the Board of Regents should give careful attention to the enrollment capacity and experience of The Ohio State University and the University of Cincinnati. Highly specialized doctoral degree programs where there is a very limited demand for scholarly talent should be offered only at The Ohio State University and the University of Cincinnati.

Professional Study—General

1. The Doctor of Philosophy degree, the Doctor of Education degree, the Doctor of Business Administration degree, and other possible professional degrees represent the culminating point in formal education for a career of professional practice or of professional education and research in a particular profession. The degree is supposed to evidence individual achievement in at least three behavioral characteristics which attest high professional competence: mastery of the knowledge content of a profes-

sional field, mastery of the skill needed to apply experience and knowledge to the solution of the most complex problems of professional service, and mastery of the skill needed to mobilize professional resources in an organized performance of professional service. As of 1969-70, eight public universities were offering doctoral degree programs in education, five were offering doctoral programs in engineering, and three were offering doctoral programs in business administration. Other doctoral programs in professional fields of study tended to be concentrated at The Ohio State University and the University of Cincinnati.

2. The future demand for highly educated talent in professional fields of study is somewhat difficult to determine. As professional education expands, there is an increased demand for the highest educated talent as instructors and academic administrators. As professional practice becomes more highly specialized and requires greater individual competence, there is an increased demand for the highest educated talent in the professional field. As professional practice becomes more highly organized, involving numbers of people in rendering professional service, there is an increased demand for the highest educated talent to perform leadership and management roles. As of 1969-70, the total enrollment in all professional fields of study in Ohio's public universities came to about 3,500 students, somewhat greater than the enrollment for doctoral programs in the Arts and Sciences. The total number of degrees granted was around 500. It is recommended that the public universities plan for an enrollment of around 4,500 doctoral students in professional fields by 1980, with an anticipated output of approximately 900 degrees per year.

Agriculture

1. There were about 190 doctoral degree students in the agricultural sciences at The Ohio State University in 1969-70, and this enrollment is expected to increase during the decade of the 1970's.

Allied Medical Professions

1. There were four doctoral students in this professional field at The Ohio State University in 1969-70, and it is to be hoped that this program could be increased to 15 students as soon as possible.

Performing Arts

1. There were about 400 students enrolled at the doctoral degree level in the performing arts as of 1969-70 at four public universities. An enrollment objective of 450 by 1980 appears to be reasonable. With the inauguration of the Doctor of Musical Arts degree at The Ohio State University, there is some question whether or not another doctoral program in music is needed in Ohio. If there is such need, Kent State may be the appropriate place for this program.

Business Administration

1. There were approximately 270 students at the doctoral level in business administration enrolled at three public universities in 1969-70. It should be recognized that the degree Doctor of Business Administration is a degree primarily for instructors. There does not appear to be any need for any increase in the enrollment of this program and no need for the creation of any new programs.

Engineering

1. There were approximately 675 students enrolled at the doctoral degree level in engineering at five public universities in 1969-70. This enrollment should be increased to around 1,000 students by 1980, and two additional universities should be encouraged to develop such programs by that date.

Home Economics

1. There were some 60 students at the doctoral level in home economics enrolled at The Ohio State University in 1969-70, and there appears to be a need to increase this enrollment level during the 1970's.

Journalism

1. There were about 20 students in journalism or mass communications at the doctoral level at Ohio University as of 1969-70. A doctoral program at The Ohio State University may be considered if the need for the graduates of such a program can be clearly documented.

Nursing

1. There is a need for a doctoral program in nursing at The Ohio State University. This program should be established and should be expanded to an enrollment of 20 students as soon as possible.

Optometry

1. There were four students enrolled at the doctoral degree level in optometry at The Ohio State University in 1969-70. The enrollment objective of this program should be 20 students to be prepared especially for research in vision and optics.

Pharmacy

1. There were 30 students enrolled for the Doctor of Philosophy degree in pharmacy at The Ohio State University and for the Doctor of Pharmacy degree at the University of Cincinnati. There does not appear to be any need for expansion of these programs at this time.

Social Work

1. There were 20 students enrolled at the doctoral level in social work at The Ohio State University in 1969-70. There does not appear to be a need for any increase in this program during the 1970's.

Public Administration

1. There were six students enrolled at the doctoral level in this program at The Ohio State University in 1970; it is hoped that the program can be built up to a level of 30 students early in the 1970's.

Computer Science

1. It is hoped that this program at The Ohio State University can be built up to an enrollment of 45 students early in the 1970's.

Teacher Education

1. There were some 1700 students enrolled at the doctoral level in teacher education at eight public universities in 1969-70. Enrollment in this program may be expected to increase to 2200 students by 1980.

Veterinary Medicine

1. There were 23 students enrolled at the doctoral level in veterinary medicine at The Ohio State University in 1969-70 and 25 such students represent the desirable level of enrollment in this program for the 1970's.

Medicine and Dentistry

1. The Ohio State University has offered a Doctor of Philosophy degree in medicine and in dentistry in addition to the graduate professional degrees of Doctor of Medicine and Doctor of Dental Surgery. The University of Cincinnati has offered a Doctor of Industrial Medicine degree and a Doctor of Science degree in several medical specialties. These degrees have represented a specialized research competence developed by certain holders of the graduate professional degrees. There were about 190 students so enrolled in 1969-70, all but two of them in medicine. No expansion of these programs should be anticipated during the 1970's.

Specialist in Education

1. Several public universities in Ohio have offered the degree Specialist in Education as an intermediary degree between the Master of Science in education and the Doctor of Education or the Doctor of Philosophy in Education. The degree has represented completion of course and reading work beyond the master's degree and in some instances has represented the highest available educational preparation for certain professional activities in school teaching or administration. It is recommended that this program be reviewed carefully by the public universities to determine its continued usefulness in teacher education and school management.

XIV. INSTRUCTIONAL PROGRAMS: MEDICAL

Optometry

1. Education in the profession of optometry seeks to prepare individuals who are able to improve or enhance the visual performance of people. The use of lenses is only one device or procedure to this end. Orthoptics and visual training may also be used to improve visual per-

formance. Increasing attention is now being given to the visual environment, and the optometrist may be asked to provide advice in motor vehicle, business, and industrial applications of visual capacity. In addition, professional practice in optometry may become increasingly a matter of a health care team approach to the needs of various persons.

2. There is one College of Optometry in Ohio as a part of The Ohio State University. There are only 12 such colleges in the United States. Professional education for optometry is based upon two years of pre-professional higher education; professional education for the degree Doctor of Optometry is four years or 12 quarters in length. In 1969-70 there were 189 students enrolled in the professional program, and about 49 degrees were awarded. The current capacity of the College of Optometry is 51 students in the entering class.

3. There is a shortage of optometrists in the United States. The Ohio State University is now planning to increase the size of the entering class in optometry from 51 to 86 students, and this increase should be effected at the earliest possible time. There is no need to establish an additional optometry program in Ohio.

4. The College of Optometry is requested to take the leadership in the development of a technology curriculum in optometry appropriate for students who might be enrolled in optometric technology in order to prepare themselves as professional associates of the optometrist.

Veterinary Medicine

1. Education in veterinary medicine seeks to prepare individuals for professional practice in the health care of animals. The importance of this health care is becoming increasingly evident in terms of the production of foods of animal origin, in terms of the medical developments dependent upon animal experimentation, and in terms of health care of the animal population in the United States. Veterinary medicine is a part of the mainstream of bio-medical science today.

2. The College of Veterinary Medicine of The Ohio State University is one of 18 colleges of veterinary medicine in the United States and the only such college in Ohio. The College had an enrollment of 340 students in 1969-70 for the degree Doctor of Veterinary Medicine; there were approximately 75 such degrees conferred. Education for veterinary medicine requires four years or twelve quarters of instruction following three years or nine quarters of pre-professional education.

3. There is a need to expand the opportunity for enrollment in veterinary medicine. New facilities for veterinary medicine education are now being constructed, and the size of the entering class will be increased from 120 in 1970 to 240 students in 1976. There is a need to expand the size of the entering class to 360 students by 1980, and the necessary

plans for such expansion should be prepared during 1971-72. The College of Veterinary Medicine should be commended for undertaking to provide two instructional tracks for entering students, one entailing twelve quarters of continuous instruction over a three calendar year period and one entailing twelve quarters of instruction spread over a four calendar year period.

Medicine

1. As of 1969-70, there were four colleges of medicine in Ohio: two in public universities, one a separate public medical college, and one in a privately sponsored university but receiving state government operating assistance. The entering class in each of these colleges as of 1970 was as follows: Ohio State—216, Cincinnati—110, Medical College of Ohio—32, and Case Western Reserve—104. The planned maximum size of an entering class to be realized during the 1970's was as follows:

Ohio State	265
Cincinnati	190
Medical College of Ohio	100
Case Western Reserve	150
	705

2. There is a need to educate more doctors. There is also a need to improve the delivery of health care to the American public. The two are closely interrelated, but, at the same time, are separate problems. It would be possible to graduate more individuals qualified to practice medicine and to find that the delivery of health care was not substantially improved. Even so, it is essential that more doctors be provided for our society and that Ohio contribute its fair share to this increased effort.

3. There is some disagreement about the magnitude of the increase in numbers of medical students which should be undertaken in the United States. The report on higher education and the nation's health by the Carnegie Commission on Higher Education recommends that the number of available places for entering students in medical schools be expanded from 10,800 in 1970 to 16,400 by 1980. Our consultants on medical education report that the number of entering places in the medical colleges of the United States might be extended to as many as 20,000 by 1980. Ohio's "fair share" in an objective of 16,400 entering places would be 850 first-year students, and under the second objective would be 1,000 entering students. The Board of Regents recommends that 1,000 entering students in a program leading to the Doctor of Medicine degree should be the planning objective for 1980.

4. The Carnegie Commission and our consultants recommend that the four existing colleges of medicine in Ohio should be encouraged to expand their enrollments to accommodate the desired increase in places in the entering class. The consultants to the Board of Regents recommends

that the objective of 1,000 entering students might be accommodated as follows:

Ohio State	400
Cincinnati	250
Medical College of Ohio	150
Case Western Reserve	200
	1,000

5. There is a considerable amount of discussion going on in the United States today about desirable innovations in medical education. In 1970 The Ohio State University introduced an arrangement whereby a medical student might obtain his Doctor of Medicine degree by three calendar years of continuous enrollment; the four year curriculum of three quarters of enrollment will continue to be offered for the present. Proposals have been made that the period of medical education might also be shortened by one year by requiring a more intensive education in the biological sciences as pre-professional education. It has also been suggested that the costs of operating a teaching hospital as a part of medical education might be reduced or eliminated by greater reliance upon community hospitals. These various possibilities for change in the pattern of medical education deserve careful consideration by Ohio's colleges of medicine.

6. Medical education does not end with award of the Doctor of Medicine degree. In the past, medical education has been followed by one year of internship and from three to five years of residency. We are informed that in the near future, internships will be abolished and that residencies for various specialties will continue to be a three to five year period of supervised medical practice, instruction of medical students, and supervised medical research. Community hospitals throughout Ohio are very much concerned about their ability to attract medical residents, since such house staff are important in the delivery of medical care within a community.

7. Both the Carnegie Commission on Higher Education and our consultants on medical education recommended that the four existing medical colleges should establish a new kind of off-campus educational agency. The Carnegie Commission has labelled this new agency an "area health education center" and has recommended that five such centers be created in Ohio, located in Dayton, Lima, Mansfield, Akron, and Youngstown-Warren. The Carnegie Commission proposes that area health education centers should have as functions: (1) to operate a community hospital of outstanding quality, (2) to conduct educational programs under the supervision of the medical college faculty, including clinical instruction of M.D. students and resident doctors, (3) to carry on a continuing educa-

tion program, (4) to assist other universities and colleges in the development of educational programs for allied medical personnel, (5) to cooperate with hospitals and community agencies in the development of health care delivery systems, and (6) to conduct some research programs, especially programs evaluating health care delivery systems. Our consultants propose the establishment of a new agency designated a "health sciences graduate center" and recommend that the first such center should be created in northeastern Ohio in the Akron-Kent-Youngstown area. This center would consist of faculty members from one of the existing medical schools. The center would have as its functions: (1) to direct medical education activities of teaching hospitals in the area, (2) to develop curricula for residency programs, (3) to recruit and supervise the instruction of resident doctors, (4) to coordinate training programs with the health care needs of the area, (5) to conduct and coordinate continuing education programs for health professionals of the area, (6) to initiate programs for new types of practitioners such as family physicians, and (7) to help develop plans for improved delivery of health care in the area. After experimentation in northeastern Ohio, this health sciences graduate center might be extended to other areas of the state.

8. The Ohio Board of Regents has also received proposals from five state universities (the University of Akron, Cleveland State University, Kent State University, Wright State University, and Youngstown State University) for the creation of new colleges of medicine in a somewhat different kind of organizational arrangement from the large medical center complex associated with medical education at present. This new kind of medical college would be founded upon a facility for basic sciences and would then make use of existing community hospitals for clinical instruction and the instruction of residents. Presumably there would be less emphasis upon research and more emphasis upon instruction in this new medical college.

9. The Ohio Board of Regents believes that the entire subject of medical education is too complex and the future course of national and professional policies so uncertain that no final recommendations for legislative action can be formulated at this time. There are several possible lines of action which require further exploration, exploration which the limited resources of the Board of Regents have not permitted. First, the feasibility of the additional expansion of the existing colleges of medicine in Ohio should be examined. Secondly, the possibility that programs to expand allied medical personnel may be more needed at this time than expansion of medical colleges educating Doctors of Medicine should be considered. Thirdly, the desirability of creating one, two, or three new colleges of medicine of a new kind ought to be given careful study. In the fourth place, various means of improving the outreach of the existing

colleges of medicine to community hospitals ought to receive further attention, including the idea of a new adjunct medical education center.

10. Under these circumstances, the Board of Regents recommends that the Ohio General Assembly enable the Board of Regents to undertake further planning in depth of the needs for improved and expanded medical education in Ohio. The Board of Regents should designate an Advisory Committee on Medical Education made up of the chief academic medical officer of the three universities now offering medical education and the one medical college, along with other persons who can contribute knowledge about the needs of medical education. The Board of Regents should also be provided the staff resources to appoint a Vice-Chancellor for Medical Education Affairs, along with at least one assistant and such consulting assistance as he or she may require. The Vice-Chancellor should be a qualified medical educator with the M.D. degree. With this kind of assistance, the Board of Regents should be able to provide the Governor and the General Assembly with specific recommendations about the issues outlined above.

11. It is recommended that first priority in the distribution of capital improvement funds available for medical education be given to completion of needed facilities at Toledo, Ohio State, and Cincinnati.

12. It is recommended that the State of Ohio continue to provide financial support for the operation of the School of Medicine of Case Western Reserve University.

XV. OTHER EDUCATIONAL PROGRAMS

Research

1. Research is an integral part of the professional activity of the higher education faculty member, regardless of the discipline or professional field of study in which that instructor may specialize. Some instructors may devote a larger part of their professional activity to research than others, and institutional management should recognize that faculty members vary in their interest and in their capacity to undertake research activity. Research may seek to acquire new factual data from which new concepts of human and environmental phenomena may be induced. Research may seek a new synthesis of available factual data. Research may seek to formulate new hypotheses for inquiry and consideration. Research may seek to analyze pressing problems of individual and social importance. Research may blend into developmental activity: the devising of possible solutions to pressing problems from the application of knowledge and experience to specific circumstances or situations. Research may blend into technology, the determination of actual production endeavor to provide the goods and services needed by an achieving society.

2. The scholar who becomes a critic of cultural activity, of individual behavior, of social institutions, of public policy, and of social policy preserves his or her status as scholar only when such criticism is based upon knowledge, research, and carefully formulated, articulated standards of desirable performance. Research and criticism are closely inter-related. Criticism not founded upon research and balanced judgment cannot be considered as scholarly activity.

3. Faculty members in the performing arts may engage in creative activity or artistic performance. Such activity or performance should be considered the counterpart of research activity on the part of other faculty members.

4. Some research or creative activity should be considered as the normal adjunct of the instructional assignment or work load of faculty members. Appropriate care should be taken by each public institution of higher education to make certain that research or creative activity do not take precedence over the instructional assignments of faculty members. When external or sponsored support is obtained for research and creative activities of faculty members, then a part or all of the salary compensation of the faculty member should be paid from the research accounts rather than the instructional accounts of the university.

5. The support of research activity by faculty members may be obtained from different sources of income: federal government research grants and contracts, state government research appropriations, state government research agencies, private research grants and contracts, and general income. It is important that all such specially sponsored research activity be carefully budgeted and be properly controlled by public institutions of higher education.

6. It is assumed that the federal government will continue during the decade of the 1970's to be the primary source of financial support for separately budgeted research projects. It is assumed that the federal government agencies distributing research grants will be guided by panels of advisors concerned to evaluate the research promise of particular projects and of particular researchers, modified by a concern for some degree of geographical equity in the distribution of grant funds. It is assumed that the federal government will continue to expect some contribution by universities to research endeavor in the form of either facilities or personal services or both. University contributions should be clearly defined and should be separately budgeted.

7. The State of Ohio should continue to provide financial support for the Ohio Agricultural Research and Development Center.

8. The State of Ohio through appropriation of funds for Regents Professorships should provide support to recognized scholars engaged in

research activity in order that a substantial part of their salary will not be carried by the instructional subsidy. Appropriations in an increased amount should be sought by the Board of Regents for this purpose.

9. A general appropriation for research support of the state universities should be sought by the Board of Regents to be divided among the universities in approximate proportion of their relative roles in graduate and graduate professional education. This appropriation should be considered a research subsidy to each university and should be distributed internally within each university according to its own standards and procedures.

10. A general appropriation should be sought by the Board of Regents to support an Inter-University Council on Environmental Education which would approve special projects in this field to be undertaken at individual institutions or upon an inter-institutional basis.

Public Service

1. Ohio's public institutions of higher education are engaged in four somewhat different kinds of public service activities: (1) continuing education, (2) clinical services, (3) consultative services, and (4) special or developmental instruction. All four of these activities are important and need to be undertaken by higher education. All four activities are an integral part of higher education operations.

2. Public service activities may be performed by faculty members on an individual basis as an adjunct of instructional activity. Where this is the case, appropriate administrative officers should be informed about such activity and about the extent of the time involved. Public service activity should not be undertaken at the expense of instructional activity. Each public institution of higher education should have an appropriate policy guideline for faculty time devoted to individual public service and should have appropriate arrangements to ensure that these guidelines are observed in practice.

3. Public service activities may be performed on an organized, separately budgeted basis. Where a faculty member is engaged on a part-time or full-time basis in public service activities, the basis of this activity should be stated in the annual employment contract and the appropriate part of the compensation should be provided from the public service budget of the institution.

4. Public service activities may be financed in a variety of ways: by state appropriations, by federal government grants, by gifts, and by charges to the participants or beneficiaries of the public service. Public service activities should be carefully budgeted and effectively managed by each public institution of higher education.

5. Continuing education may be of two kinds: continuing professional education and continuing general education. Continuing professional

education involves periodic programs of seminars, workshops, and short courses intended to provide professional practitioners with the most recent facts, knowledge, experience, and skills involved in professional practice. Continuing general education involves seminars, short courses, theatrical performances, other artistic performances, and lectures dealing with public affairs and cultural appreciation.

6. A major problem in continuing education is the matter of financing the cost of such activities. Much continuing professional education is financed by charges to professional beneficiaries. Much continuing general education is financed by ticket sales. It is recommended that these efforts at financing continuing education activity on a charge basis be extended wherever feasible. It is appropriate that administrative overhead of a public college or university include at least one professional staff position devoted to the planning and coordination of continuing education activities.

7. The largest continuing education program supported by state appropriations is that of the Ohio Cooperative Extension Service operated through The Ohio State University. This program provides both continuing professional education and continuing general education primarily to farm families but also to agri-business enterprises and to other families served by the Expanded Nutrition Program.

8. The State of Ohio has provided a general appropriation to the Board of Regents in recent biennia for research and public service. The Board has found it necessary to allocate most of this appropriation for public service activities. Some $500,000 to $600,000 a year has been allocated for continuing professional education of teachers in inner-city schools and in vocational subjects. The Board of Regents recommends that this program of continuing professional education of school teachers be continued for another two biennia at a minimum.

9. The Ohio State University has provided for some fourteen years a Labor Education and Research Service, and the Ohio Board of Regents allocated support to this Service in 1969-71 with which to establish offices in three other cities besides Columbus. It is recommended that this continuing education activity be supported by the State of Ohio insofar as its overhead as distinct from its instructional cost is concerned.

10. The State of Ohio should decide the extent to which continuing professional education is needed for the improvement of its own public service activities and should provide appropriations to the Board of Regents for distribution to public institutions of higher education able and willing to undertake such continuing education in public service fields.

11. Four public universities have operated a broadcasting service primarily as an adjunct to their instructional programs in broadcasting

or speech. The broadcasting facilities have been utilized primarily for public broadcasting; that is, for broadcasting of public affairs discussions and of cultural programs (drama, music, etc.). In accordance with recommendations of the Ohio Educational Television Network Commission, the General Assembly in 1969 provided a capital improvements appropriation to the Board of Regents for construction of new television transmission facilities which will afford a general coverage of the state. The Board of Regents recommends that beginning in 1971 the state universities should be provided with an appropriation for operation of these new facilities so as to provide continuing general education to the citizens of Ohio on a late afternoon and evening basis at least five nights a week.

12. A major field of concern in continuing education is medical education. There are two parts to this concern: (1) the period of residency when a young doctor is acquiring practical skill in diagnosis and treatment under the general supervision of a master doctor; and (2) the transmission of new medical knowledge and experience to all medical practitioners. Both of these concerns are intimately connected with the whole problem of the delivery of medical care to the people of Ohio. Ohio's existing colleges of medicine are already extensively engaged in providing continuing medical education service to various communities by means of conferences, seminars, radio-telephone conferences, and open-circuit television. There is a need to extend these services and to provide for their additional financial support.

13. Public higher education in Ohio renders a number of clinical services: medical and hospital care of patients, veterinary and hospital care of animals, dental care of patients, assistance through speech and hearing clinics, assistance through slow learner clinics, assistance through psychological counseling clinics, and assistance to school students enrolled in a laboratory school. All of these clinics, hospitals and laboratory schools are considered to be essential to their related instructional programs, since experience in professional practice is an important part of the program in professional instruction. At the same time, the individual patient or client may also be receiving a valuable individual benefit. It is recommended that public universities should charge fees for the clinical, hospital, and other services rendered individuals in conjunction with programs of professional instruction. It is recognized that in cases of inability of the individual to meet the service charge, the service may have to be supported in part from state appropriations.

14. The net expense of a clinical service (gross expense minus direct income) is a necessary operating expense of a public institution of higher education. Such expense then becomes a direct charge to the instructional budget of the institution. It is recommended that the magnitude and trends in such direct charges be subject to continual careful analysis by each public institution of higher education.

15. The expense of operating teaching clinics and teaching hospitals in a university medical center is such that separate appropriation subsidies are necessary for these services. The components of this appropriation should be: (1) plant operation expense attributable to the instructional and research missions of the clinics and hospitals, (2) other overhead charges attributable to the instructional, research, and continuing education missions of the hospitals and clinics, and (3) patient care costs not provided through patient charges.

16. The net expense of operating a laboratory school by a public university must be considered today primarily as a state university subvention to local government rather than as an essential cost of teacher education. No laboratory school is adequate to provide the observation and internship experiences essential to teacher education. It is recommended that public universities develop a formula for compensation of school districts or of school teachers providing observation and internship experience for students in teacher education.

17. In general, industrial research and development services and other services provided by organized units of a university such as an engineering experiment station or an educational field service are rendered on a cost or expense basis. It is recommended that this practice should continue. Consultation on a non-cost basis is being rendered by the Ohio Agricultural Research and Development Center and by the Cooperative Extension Service; such assistance should be continued.

18. The Ohio Board of Regents has been supporting a consultative service in technology transfer as a result of grants provided by the federal government under the State Technical Services Act of 1965. Although these grants were not provided in the fiscal years 1970 and 1971, the Board of Regents has continued to support this activity on a reduced basis from the appropriation for research and public service. It is recommended that the Board of Regents or the State Department of Development should establish an Ohio Technical Service with offices in five locations in Ohio (northeast, northwest, central, southeast, and southwest) and that all public universities should cooperate in the activities of this Service. The State of Ohio should support this activity if a market survey determines a continuing need and utility.

19. A new public service of public institutions of higher education has come to the fore in recent years and has been supported by the State of Ohio through the Board of Regents: student remedial or developmental instruction. Such instruction has been provided to students motivated to undertake higher education but having an inadequate background of secondary education. Developmental instruction may involve refresher courses in English and mathematics of secondary school level; it may involve tutorial assistance for freshmen students to assist these students in meeting course work requirements; it may involve special counseling

on study and learning procedures. Ideally, all students entering higher education should have had the same opportunities for college preparation in their secondary education. In practice, it appears that equal opportunity has not been realized and that some compensatory or development assistance by higher educational institutions is necessary. Under these circumstances, the Board of Regents recommends that the State of Ohio provide developmental instruction for the benefit of motivated but poorly prepared students entering public institutions of higher education.

20. Another kind of student development service might be rendered by community colleges and state community and technical colleges. This service would be that of job education. Facilities available for technical education might also be utilized for job training of high school graduates lacking vocational education and of high school drop-outs. It is recommended that community colleges and state community and technical colleges consider the desirability of establishing Job Education Centers. These centers would offer short courses in such fields of job training as welding, auto mechanics, and electric appliance repair. These centers could be supported financially by the use of local tax funds available to community colleges and by federal funds which might be available for this purpose.

21. There are almost endless opportunities for public higher education to undertake public service activities. The limitation upon these activities is a matter of resources and priorities. The Board of Regents recommends that first priority be given at all times to the instructional activities of higher education and that second priority be given to research. Within the framework of public service endeavors, the priorities recommended herein should set the parameters of public policy in providing financial assistance by the State of Ohio.

Supporting Services

1. Library services are indispensable to the primary missions of higher education in instruction, research, and public service. The scope of library service in any particular institution should be carefully articulated with the scope of the instructional, research, and public service activities of that institution. The burden of library service is increasing, both in terms of volumes of books and periodicals maintained for instructional and research use and in terms of providing new kinds of informational services by means of microfilm readers, photo-copying of articles and documents, and the rise of programmed learning materials. The public universities and colleges must continue to give careful attention to the adequacy of their library services. Efforts at inter-institutional cooperation in the collection and use of research materials should be strengthened.

2. Instructional services are of various kinds such as audio-visual service, language listening centers, museums, galleries, closed circuit

television, and broadcasting facilities, in addition to the more elaborate adjuncts to instructional activity such as teaching hospitals, clinics, and school observation and internship. The scope and extent of these instructional services provided on a campus require continuing evaluation and the establishment of definite priorities of support.

3. Student services embrace several essential activities in the operation of instructional programs: admissions, registration and class scheduling, student counseling, and student financial assistance. Student personnel services of all kinds are an essential part of the operation of a public institution of higher education and make an indispensable contribution to the educational mission of each institution. It must be pointed out, however, that recent student demands and student disruption of campus activities are resulting in increased costs of student services. On some campuses an ombudsman position has been created to handle individual student grievances. On some campuses it has become necessary to establish an office of campus discipline, a kind of prosecuting attorney for charges against individual students accused of destruction of property, disruption of lawful campus activities, and campus violence. The necessary increases in expenditures for these activities must be met by increased income from the state government and from students.

4. Auxiliary services involve a number of varied operations required in support of the instructional mission of a college or university: student health service, student residence service (dormitories and dining facilities), student social and activities service, bookstore service, recreational service, convocation and cultural service, intercollegiate athletics service, and a university press or publications service. In general, it is and should remain state policy that the expense of all such services, including debt service for physical facilities, should be met from service charges, supplemented by the income of a general fee charged to all students. It is essential that the cost accounting and financing of these services include all indirect or overhead expense, as well as direct operating expenses. The instructional budget of a college or university should not absorb the overhead expenses properly attributable to these services; these services should meet the expense of indirect costs such as grounds maintenance, student supervision, and general administration (including accounting, personnel, purchasing and supply, student collections, etc.). As the expenses of these various services continue to mount, every possible economy in operation must be carefully explored. The expansion of these services can be undertaken only with the assurance of the necessary income to meet the cost involved.

5. Management of a public college or public university entails the necessary direction in the planning of objectives, in the evaluation of performance, in the effective utilization of available resources, in the performance of essential internal operating services, and in the protection of the academic environment. The effective and efficient management of

each public institution of higher education becomes increasingly important as the public resources provided an institution advance in amount, as the demand for educational services expands, and as educational services rendered by higher education institutions become more essential to society. Every public institution of higher education in Ohio must continually demonstrate that it is concerned about management effectiveness and efficiency and that it is achieving management effectiveness and efficiency.

6. In practical effect if not under the authority of law, college and university management in Ohio's public institutions of higher education have found it necessary in some instances to enter into collective negotiation with representatives of civil service employees. The complexities of obtaining a satisfactory labor supply to meet campus operating needs in various places throughout Ohio are substantial. It is recognized that in many if not all instances existing civil service law job classifications are not adequate to the needs of higher education. College and university management tends to be employee-oriented and to desire to improve the compensation and working conditions of the civil service staff. At the same time, there are certain personnel management policies and practices which could be improved. It is recommended that the Board of Regents seek to obtain new and simplified job classification titles in the Ohio Civil Service Law under a separate heading of "College and University Service." In addition, it is recommended that the Board of Regents seek specific authority in law for boards of trustees of public colleges and universities to enter into collective agreements with civil service employees, provided that such agreements do not violate any provision of law, including compensation schedules fixed by law.

7. At present all instructional personnel of state universities and of other public institutions of higher education are provided retirement and survivor benefits through the State Teachers Retirement System. This system is more responsive to the needs of Ohio's public schools than it is to the needs of Ohio's public universities. It is recommended that the state universities be permitted to offer retirement benefits to new instructional personnel on the basis of the preference of the new appointee: inclusion in the State Teachers Retirement System or inclusion in some other retirement system such as that of the non-profit Teachers Insurance and Annuity Association.

8. The extent of fringe benefits to be provided to all staff members by public institutions of higher education has been a matter of considerable discussion. The authority of government vested in boards of trustees of each public institution of higher education has been interpreted to include the power to determine fringe benefits to be made available to staff. There has been some criticism of these benefits on the grounds that they provide compensation not available to employees of state or local government generally. It must be pointed out, also, that once a particular "package"

of fringe benefits is made available to the staff of one public institution of higher education, it may be anticipated that the staff of other public institutions of higher education will expect similar treatment. The Board of Regents recommends that there be full and acknowledged disclosure of the costs of all fringe benefits and that such costs be budgeted as a part of the personnel expense of operation under the various programs of each public institution of higher education.

Instruction by Correspondence

1. Ohio University has since 1924 offered some instruction through correspondence. The number of courses thus offered increased to nearly 150 as of 1969-70, and the number of individuals enrolled in such courses had mounted to over 2,000 persons. This program has recently been designated "Independent Study Through Correspondence."

2. The Ohio Board of Regents recommends that Ohio University be recognized as the one state university to offer extra-mural instruction and that the program of Independent Study Through Correspondence be extended to provide opportunity to obtain an associate degree and a baccalaureate in appropriate subject matter areas. It is assumed that careful evaluation of student accomplishment will be realized through course reports and examinations and through a standardized test of college level achievement.

3. The Ohio Board of Regents recommends that an appropriate overhead subsidy should be provided to Ohio University for operation of Independent Study Through Correspondence.

XVI. CAPITAL FACILITIES

1. Public institutions of higher education require an extensive physical plant in order to perform the various programs and to render the various services they undertake. As of 1970, the public institutions of higher education in Ohio had plant facilities of the following magnitude:

	Gross Square Feet	Net Square Feet
Instructional	22,655,971	14,620,651
Other	21,112,733	14,412,723
Total	43,768,704	29,033,374

By type of institution, the instructional plant was distributed as follows:

	Net Square Feet	Square Feet Per F.T.E.
Universities	12,533,922	68.99
Branches	1,159,339	76.68
Community Colleges	680,418	47.79
Technical Institutes	246,972	72.93
Total	14,620,651	68.18

2. The quality of physical plant facilities is equally a matter of concern along with quantity. As of 1970, the public universities reported that 85 percent of their instructional plant was in satisfactory condition. About 15 percent was in poor condition or obsolete and in need of replacement.

3. The Board of Regents believes that a reasonable standard of space (room) utilization based upon a 40 hour instructional week would be as follows:

	Percent
Classrooms	
Lecture halls	60
Classrooms	75
Seminar	50
Teaching Laboratories	50

These rates of utilization pertain only to room assignment. In addition, the capacity of a room must be adapted to the size of the class assigned to a room. As a general standard, the Board of Regents believes that 60 percent of the student stations (spaces) available in a particular classroom or teaching laboratory should be utilized in any class period.

The utilization of available instructional space demands continuing attention on the part of university and college management.

4. During the decade of the 1960's, substantial investment of capital improvement funds was made by the State of Ohio in the instructional facilities of public higher education. The State has not invested funds in student dormitories, feeding facilities, student social and recreational facilities, student hospitals, and intercollegiate athletic facilities. Instructional facilities, to be sure, must include more than classrooms and laboratories; they include land, faculty offices, library space, administrative space, and plant operations space. The funds for instructional space provided by the State have been supplemented by grants from the federal government, local government funds (in the case of community colleges and technical institutes), and private gifts. The total investments in capital plant improvements by the State of Ohio between 1963 and 1971 were as follows:

Universities	$461,993,711
Agricultural Research	9,073,676
Branches	63,552,875
Community Colleges	32,090,000
Technical Institutes	38,403,648
	$605,113,910

Federal, local, and gift funds provided another 237 million dollars for instructional plant improvements. Thus, while enrollment in public higher education was increasing by 183,000 students, total capital plant investments were being added in an amount of nearly 850 million dollars.

5. The Board of Regents has established a general standard of space needs for public institutions of higher education in terms of their enrollment. These standards are related to the estimated number of full-time equivalent students enrolled during the day-time period of each campus (eight hours per day for five days per week). Obviously, students enrolled in the late afternoon and evening constitute an additional operating expense but do not constitute an additional capital plant investment. These space standards for net instructional space per day-time student are as follows:

	Net Assignable Square Feet Per Day-Time Student
The Ohio State University*	90
University of Cincinnati*	85
Other State Universities	75
Two-Year Campuses	75

*Not including medical center space

It should be emphasized that these standards might well be criticized as being too stringent. The Ohio Board of Regents has examined standards in other states and has found them generally higher than those set forth above except for two-year campuses. Office of Education standards for facility grants and for facility loans have been higher than these. The Board prefers to hold to these standards while emphasizing the need for improved utilization of available facilities.

6. The decade of the 1970's will see a need to continue a program of capital improvements at public institutions. It is highly desirable to replace poor and obsolete instructional facilities. It is also necessary to provide the plant for the enrollment growth of the 1970's. In particular, further plant investment will be urgently needed at the two-year campuses where the bulk of the enrollment expansion is expected to take place.

7. The Board of Regents will continue its studies of space inventory, space utilization, space quality, and desirable space standards. It is hoped that these records and these standards can be improved in quality in the next several years.

8. An enrollment increase of another 170,000 students on a head-count basis during the decade of the 1970's will generate new instructional space needs approximating 4.5 million square feet of assignable area or some 7 million gross square feet of space. The details about location of this space and about kinds of space will be presented in the capital improvement appropriation recommendations of the Board.

9. Replacement requirements as of 1970 amount to 2.2 million square feet of assignable space or 3.5 million gross square feet of space.

10. There will also be a need for such special purpose space as may be approved in the development of subsequent educational programs; medical school space, teaching hospital space, adjunct medical center space, research space, and public service space.

XVII. FINANCIAL SUPPORT OF HIGHER EDUCATION

1. A planning-programming-budgeting sequence should be the basis upon which the expenditure needs and the appropriation recommendations are developed for presentation to the executive and legislative branches of state government. The various program activities of public institutions should be classified for budgeting, accounting, and reporting purposes under five major categories, and both income and expense for the programs in these categories should be clearly and comprehensively shown. These five major categories are:

a. Instruction and General Operation

b. Research

c. Public Services

d. Auxiliary Services

e. Student Aid

2. Among these various categories of activities, the State of Ohio should continue to give its first priority in concern and support to the instruction and general operation of the publicly supported institutions of higher education. The Board of Regents should also receive funds with which to purchase instructional service from privately sponsored institutions of higher education under contract as recommended in this Master Plan.

3. Except for the research activity of individual faculty members carried on as an adjunct of their instructional activity, the financial support of separately budget research projects must be expected to be derived primarily from non-state sources of income: federal grants and contracts, foundation grants, private contracts, and private gifts. The expanded support of the Ohio Agricultural Research and Development Center should be directed to projects designed to increase the income of farms, to conserve agricultural resources and environmental quality, to improve the quality of farm and fiber products available to the consumer, and to encourage economies and efficiencies in agri-business enterprises. It would be advisable

for the State of Ohio to encourage research in environmental conservation. It may be desirable to encourage research in the medical sciences by providing relatively small amounts as "seed" support. Otherwise, the State of Ohio through Regents' Professorships should encourage individual research activity by faculty members of public universities.

4. There is, of course, extensive opportunity for public service activity by public universities. The limitation upon such activity is necessarily the funds available for its support. Individual faculty members may contribute such effort to public service endeavors as time and inclination permits, but these efforts must necessarily be restricted in the light of commitments to instructional activity. At other times faculty members may be retained by private persons, corporations, or government agencies to render services. Here again such activity must necessarily be restricted in view of the primary instructional commitments of faculty members. Public service by public colleges and universities may be rendered on such scale as those who want the service are willing to finance. State support of public service activity must continually be re-evaluated in terms of current priorities.

5. Auxiliary services are financed by charges and by a general student fee. The State of Ohio has not provided financial support for such services. Most auxiliary services are rendered in conjunction with campus student life, especially campus life apart from family life. In effect, the student who lives away from his or her family while enrolled in higher education is still dependent upon family financial support for the auxiliary services he or she consumes. Such family financial support may be augmented or displaced by student employment, by loans, or by student assistance.

6. Student aid provided through college or university channels is financed from endowment income, gift income, federal government funds, and general income. Students may also obtain financial assistance directly under the Ohio Instructional Grants Program. This financial assistance should be expanded as recommended earlier.

7. The role of the State of Ohio in supporting the activities of public institutions of higher education as of 1970-71 was as follows:

	Total Expenditures	State Support	Percent
Instruction	$421,305,100	$215,423,147	51.1
Research	45,222,670	6,826,000	15.1
Public Services	102,124,720	11,672,803	12.8
Auxiliary Services	116,289,970	—	0.0
Student Aid	16,536,010	—	0.0
	$701,478,470	$233,921,950	33.3

8. The role of the State of Ohio in supporting higher education activities as of 1970-71 was as follows:

Instruction	$216,923,147
Research	6,826,000
Public Services	11,672,803
Student Assistance	4,785,103
Administration	377,900
Debt Service	12,621,109
	$253,206,062

Instructional Support

9. The objectives of state financial support to public institutions of higher education must be threefold:

a. To ensure total support of instructional programs from available sources of income adequate to meet the instructional objectives of public institutions under reasonable standards of faculty compensation and of faculty work-load.

b. To distribute available State government support of instructional programs on an equitable basis among the many different public institutions of higher education.

c. To distribute available State government support of instructional programs on a basis which recognizes the differences in expenditure requirements according to the program offerings of various public institutions of higher education.

10. Although the instructional programs of public institutions may be classified in several different ways according to subject matter content and level of specialization, for state budgetary purposes the following classification of programs appears to be adequate at this time:

a. General Studies
b. Technical Education
c Baccalaureate General
(Arts and Sciences, Business Administration, Teacher Education)
d. Baccalaureate Professional
(Agriculture, Architecture, Art, Allied Medical Professions, Computer Sciences, Engineering, Home Economics, Industrial Technology, Journalism, Nursing, Pharmacy, Performing Arts, Social Work)
e. Master's Degree Programs
f. Graduate Professional Programs (Law, Dentistry)
g. Doctoral Degree Programs
h. Medical Programs
(Medicine, Optometry, Veterinary Medicine)

11. Standards of compensation and of work-load may be different for these various program categories. In accordance with the experience of the decade of the 1960's and in accordance with the immediate needs as analyzed by the Ohio Board of Regents, the base work-load and compensation standards upon which to construct adequate budget expenditures for public higher education at the beginning of the decade of the 1970's is as follows:

	Average Base Compensation	Student-Faculty Ratio (FTE)	Student Credit Hours Per Faculty
General Studies	$12,000	24 - 1	360
Technical Education	12,000	16 - 1	240
Baccalaureate General	15,500	16 - 1	240
Baccalaureate Professional	15,500	12 - 1	170
Master's Degree Programs	19,000	10 - 1	150
Graduate Prof. Programs	19,000	10 - 1	150
Doctoral Degree Programs	23,500	8 - 1	120
Medical Programs	23,500	6 - 1	90

12. The components of instructional and general expenditure are as follows:

a. Departmental Instruction and Research
   (1) Faculty compensation (number of faculty times average compensation)
   (2) Faculty Support
   (3) Program Administration

b. Instructional Services
   (Audio-Visual, Instructional Broadcasting, Museums, Laboratory Schools, etc.)

c. Libraries

d. Student Services
   (Admissions, Registration and Class Scheduling, Academic Counseling, Placement, Student Aid)

e. General Expense
   (Publications, convocations, communication services, data processing)

f. Plant Operation
   (Utilities, building maintenance, grounds maintenance, security, repairs and renovation)

g. Administration
   (Board of trustees, president's office, academic affairs, business affairs, public information)

13. Appropriate requirements for these components of instructional expenditure at this time appear to be as follows:

a. Departmental Instruction and Research (2) and (3): 18 to 44 percent of total
b. Instructional Services: $40 to $200 per student
c. Libraries: $60 to $300 per student according to program
d. Student Services: $100 per student
e. General Expense: $80 per student
f. Plant Operation: $150 to $800 per student according to program
g. Administration: $70 to $80 per student, except in medicine

14. In terms of enrollment expectations for the academic year 1971-72 (summer and autumn), the expenditure requirements outlined above would result in an instructional budget of approximately 400 million dollars, compared with expenditure requirements of around 325 million dollars in 1970-71. If we project a compound rate of increase around 4 percent per year during the 1970's because of inflation and some advances in qualitative factors, and a 60 percent increase in enrollment, we may anticipate instructional outlays of around 800 million dollars by 1980. A doubling of instructional expenditures on a national scale has been predicted by certain national studies.

15. In practice, public institutions of higher education have expended more for instruction than the Board of Regents has calculated as minimum needs. Additional funds have been available from federal and local government sources (about 35 million dollars) and from private sources (about 33 million dollars). Some additional supplementary income of this kind would continue in the future as in the past; such income, however, is not equally available to all public institutions.

16. The major choice of state policy in financing the instructional activity of public institutions of higher education is to determine the appropriate and desirable distribution of instructional income between state approprations and student charges. The traditional position of public higher education has been to favor low student charges. At the same time, public institutions have sought increased state government support in order to increase faculty salaries and benefits, to expand expensive instructional programs, to obtain more instructional equipment and facilities, and to introduce qualitative improvements in operations and in management. These demands for additional income have resulted in rising charges to students, even though by comparison with private colleges the charges by public institutions for instructional service remain relatively modest.

17. As the federal government expands its programs of student assistance (educational opportunity grants, work-study grants, and subsidized student loans) and endeavors to reduce or eliminate any economic

barriers to higher education for promising students of lower income families, the question arises about the appropriate response of state government to this trend. If the federal government increasingly seeks to finance students in a variety of ways, should state governments continue to hold fast to the tradition of low instructional charges? In long-run terms during the decade of the 1970's, the Board of Regents believes that student charges will have to increase and perhaps increase more rapidly per student than state appropriations. For the immediate biennium 1971-73 the Board of Regents recommends that a major increase in state support rather than in student charges is desirable because Ohio's public support of higher education should achieve or exceed the national average before further increases are made in student charges.

18. Minimum expenditure requirements for public institutions of higher education should continue to be presented in the decade of the 1970's as a policy choice between state government appropriation and charges to students. The Board of Regents must develop the expenditure requirements with the assistance of public institutions of higher education. The policy choice, however, is one which properly must be exercised by the politically responsible officials of state government: the executive and legislative branches.

Other Instructional Support

19. Apart from state government instructional subsidies to students, which may expect to continue to constitute the primary item in state support of higher education, there are several other items which must be given consideration. These include operating supplements to public institutions of higher education, instructional assistance to private institutions of higher education, and payments on contracts of instructional services purchased from private institutions of higher education.

20. Supplementary subsidies to public institutions of higher education may be based upon three factors: (1) the development of new programs of instruction which cannot be adequately supported during the developmental period on a per student subsidy formula; (2) the small size of a campus whose enrollment is insufficient to support an institution adequately on a per student subsidy formula; and (3) special circumstances such as the provision in Section 3343.09 of the Revised Code calling for designation of students to attend Central State University "free of tuition."

21. It is apparent that the Medical College of Ohio at Toledo will have to be supported for two or three additional biennia as a developing public institution. It is apparent that Central State University must continue to receive supplementary support until its enrollment exceeds 5,000 students; Central State must also receive an appropriation offset for that part of the student charge which is labelled "tuition." To the extent that

developmental instructional programs are authorized in the future, special appropriations will be necessary for their support.

22. Section 3333.10 authorizes the Board of Regents to enter into a contract with Case Western Reserve University for support of its program of medical education. In 1971-73 this support will require around 2.5 million dollars a year, not including any supplements for community medical service activities.

23. The Board of Regents has recommended that $50 per full-time equivalent undergraduate Ohio student be provided the Ohio College Library Center under a contract arrangement whereby books would be purchased and provided on permanent loan to non-profit institutions of higher education holding a valid certificate of authorization from the Ohio Board of Regents. For the biennium 1971-73, it is estimated that this program, if authorized by law, would require an expenditure of $3,750,000 per year, plus some overhead or administrative expense. There would be increases in this outlay in future years as enrollment might grow to as much as 7.5 million a year by the end of the decade.

24. The Board of Regents has recommended a contract of service with private institutions for the baccalaureate education of graduates of two-year campuses. For 1972-73 this program, if authorized by law, would cost around 16 million dollars, and may double during the decade.

25. The Board of Regents has recommended that the State of Ohio support dentistry education at Case Western Reserve University through a contract of service. It is estimated that this program, if authorized by law, would cost around $850,000 a year. This would increase in subsequent years as enrollment might expand and as the support formula is adjusted to as much as 1.5 million dollars by the end of the decade.

26. As stated above, the Board of Regents recommends a 4 percent increment per year per student in expenditures under prevailing economic conditions. In any particular biennium it would be necessary to appropriate this amount as a separate appropriation item in the second year of the biennium. Otherwise, the second year of a formula representing a constant support subsidy per student will, in fact, result in a reduction of state support. In the past, this circumstance has been met by public institutions by means of an increase in student charges. In order to stabilize student charges for a biennium, an incremental appropriation must be provided for the second year.

Research

27. The role of the State of Ohio in support of research depends upon the importance attached to this activity and the extent of financing available for support of such activity. In the past, the federal government has been relied upon to finance university research, and the State of Ohio

has restricted its role primarily to support of agricultural research and development. Some support has also been provided for medical research.

28. It may be expected that the State of Ohio will continue to support agricultural research and development, and the major question is the extent of such support. The management of the Ohio Agricultural Research and Development Center is necessarily charged with the authority and responsibility to obtain maximum effective results from such funding as is provided.

29. Another important policy question is whether or not the State of Ohio should provide financial support for medical research. The federal government role in financing medical research is substantial, and the Board of Regents is inclined to believe that the federal government should be expected to provide all such funding. Some small amounts of state support may be desirable from time to time.

30. Public concern with environmental quality has become widespread in recent years and it may be appropriate for the State of Ohio to provide financial support for this endeavor in addition to any federal funding which may become available during the 1970's.

31. The Ohio Board of Regents supported a program of Regents' Professorships in the biennia 1965-67 and 1967-69 from a special appropriation provided by the Ohio General Assembly. This appropriation was eliminated in the biennia 1969-71. The Board of Regents strongly recommends that this appropriation support be reinstated in order to encourage faculty excellence.

Public Service

32. In the fiscal year 1970-71, the State of Ohio has provided financial support for the following kinds of public service activities:

Continuing and Special Education		$4,036,000
Cooperative Extension Service	$2,686,000	
Remedial Education	740,000	
Labor Education	100,000	
Teacher Education	510,000	
Teaching Hospitals		7,486,803
Technical Services		150,000

The public institutions of higher education have supported many additional activities from either general income or special charges: speech and hearing clinics, psychological counseling clinics, dental clinics, and other such services; laboratory schools; museums; broadcasting services; engineering centers; educational field service and other consulting services; and continuing education conferences, seminars, and short courses. Here again the public policy issue is to determine the extent to which public services of the kind enumerated here shall be encouraged through State

government appropriation. It seems desirable that the overhead for university-wide planning and coordination of continuing education should be provided from state subsidy.

33. The Cooperative Extension Service of the Ohio State University operates in each of the 88 counties of Ohio and is oriented primarily toward providing educational service and counseling to farm families and agri-business enterprises, although the program has also tended in recent years to extend its outreach to include urban families. The scope of activity of this Service is limited by the financial support available to it. Some additional expansion must be expected during the 1970's.

34. The Labor Education and Research Service of The Ohio State University began to receive state financial support for the first time in the biennium 1969-71. The state support should be sufficient to sustain the full expense of this operation or $250,000 in each year of 1971-73.

35. Remedial (or developmental) education has been a public service endeavor of the public institutions of higher education to assist students from minority groups and poverty income families to overcome deficiencies in their educational preparation for college studies. The funds made available through the Board of Regents for this effort have been supplemented from general income, often in the magnitude of three or four times. The usual scope of such remedial or developmental education has been as follows:

a. High school level (non-credit) courses in English and mathematics to reinforce or improve preparation for college study.

b. Minority Student Counseling or Special Academic Counseling.

c. Office of Black Student Affairs or of Coordinator of Black Studies.

d. Tutorial assistance to students in conjunction with regular classroom work.

e. Special study center to help improve student study skills with additional instructional materials, small group classes, and other specialized teaching.

It is recommended that up to 3 million dollars per year be made available for this purpose in 1971-73.

36. The Board of Regents in the biennia 1967-69 and 1969-71 has supported summer teacher institutes at state university Colleges of Education to provide special instruction for inner-city school teachers and high school teachers of vocational education. It is recommended that the financing of this kind of opportunity for school teachers be transferred to the jurisdiction of the State Board of Education.

37. The support of teaching hospitals is a special kind of financial problem. Because many patient charges are collected some time after

the service has been rendered, a teaching hospital must have, or must have access to, a working capital fund. In addition, if some patient charges are uncollectible, or if patient charges are below the expense of the service rendered, there is a gap between income and expense of the teaching hospital to be filled in some way—that is, by state subsidy. Furthermore, there are some expenses of a university hospital which are not properly attributable or chargeable as patient care. Since a university hospital is a teaching and research facility, a considerable amount of space is devoted to offices of the clinical faculty, to laboratory and laboratory support facilities, and to conference and instructional rooms. It seems likely that as much as 25 percent of the space and general expense of a teaching hospital can properly be allocated to the teaching and research function as distinct from the public service function of teaching hospitals. The complexity in providing adequate financial support to a teaching hospital of a public university or state medical college lies in determining what are the reasonable teaching expenses which the State of Ohio should meet in conjunction with medical education. The Board of Regents recommends that much more careful attention be given by public universities and medical colleges to an analysis of the income and expense circumstances of teaching hospitals. In the meantime, the State of Ohio should undertake to provide a reasonable subsidy to the teaching hospitals operated in conjunction with the medical education programs of The Ohio State University, the University of Cincinnati, and the Medical College of Ohio at Toledo.

38. In 1965 the federal government enacted a State Technical Services Act in accordance with which federal funds were allocated to state governments in order to establish technical service centers promoting cooperative relationships between the development activities of business and the research interests of universities. Federal financial support of this activity was terminated, however, in the fiscal year 1970. For the biennium 1969-71, the Ohio Board of Regents has supported this activity on a limited scale of $150,000 a year from the general appropriation for public service. Although the actual results of these efforts at technological transfer are difficult to determine, the Board of Regents believes that a Technical Service is worthy of support and recommends that this activity be continued on a modest scale for the present.

39. Four public universities as of 1970-71 are operating educational television stations: Ohio State, Ohio University, Miami, and Bowling Green. Additional facilities are under construction to provide educational television transmission towers in four new locations: Dayton, Portsmouth, Cambridge, and Alliance. These transmission towers are to be operated by particular universities or a consortium of universities. In addition, new transmission facilities are being provided Ohio State and Bowling

Green State University. With this augmented availability of ETV transmitting facilities, the State of Ohio at a minimum should provide $90,000 each a year for operation of these six facilities, or a total of $540,000. If ETV in Ohio is to be as useful as it should be, additional financial support is needed for equipment and programming. There is an immediate need for at least 2 million dollars in new and replacement television equipment at eight state universities. The Board of Regents recommends that program production funds should be provided through the Ohio Educational Television Network Commission.

Student Assistance

40. Sections 5910.03 to 5910.05 of the Revised Code provide for scholarships to be granted to children of deceased or disabled veterans and of members of the National Guard killed or disabled while on active duty. These scholarships are available at state-assisted colleges and universities and are limited to one per thousand full-time students. The scholarships amount to exemption from the payment of instructional and general fees. The Ohio General Assembly began in 1969-71 to reimburse state-assisted institutions for these exemptions, and the Board of Regents recommends that this practice should continue. The support required for these scholarships depends upon two factors: the number of scholarships awarded and the amount of the student charges as fixed at state-assisted institutions. An appropriation of $90,000 per year was adequate in 1969-71, but the appropriation will have to be increased as student charges are increased and if the authorized number of scholarships should be increased.

41. Earlier the Board of Regents has recommended desirable changes in the Instructional Grants Program in order to help reduce the economic barrier to higher education for worthy students from low income families. If these changes are enacted into law, the number of students receiving assistance may be expected to increase from 15,000 in 1970-71 to 25,000 each year in the biennium 1971-73. The average annual grant would increase from $300 to $600, and the annual cost would increase from 4.5 million dollars to 15 million dollars. Future costs would depend upon a number of different factors: (1) trends in family income, (2) the number of youth from low income families enrolling in higher education, (3) the role of the federal government in providing financial assistance to students, and (4) future changes in the grant tables for the Ohio Instructional Grants Program.

Debt Service

42. Section 2i, Article VIII, of the Ohio Constitution, adopted November 5, 1968, provides that the General Assembly may authorize the issuance of revenue obligations for the construction of capital improvements at state-supported and state-assisted institutions of higher education. S.B. No. 299 of the 108th Ohio General Assembly, effective November 5,

1969, created the Ohio Public Facilities Commission as a state government agency which among other powers may issue obligations to pay the cost of capital facilities at state supported and state assisted institutions of higher education. Without reviewing the details of the arrangements, the Board of Regents points out that it is now possible to undertake higher education capital projects to the extent that such projects are authorized by the General Assembly and to the extent that available receipts are pledged for repayment of the debt service entailed in payment for these capital improvements.

43. The Ohio General Assembly in 1969 authorized new capital improvement projects for higher education in the amount of 266 million dollars. Many of the projects were not under contract by June 30, 1971, and other projects were just getting underway at that time. Bond sales to finance these projects by the Ohio Public Facilities Commission were made only as payments for actual construction came due. The debt service requirements for this 266 million dollars of capital improvements could be determined only when the final amount of bonds had been sold and the duration and interest rate on all bonds were known; interest rates were lower early in 1971 than in 1970. It seems likely, however, that at the time when all bonds will have been sold, presumably in 1974, the annual debt service requirements for the capital improvements authorized in 1969 will amount to about 27 million dollars a year for a number of years. The Board of Regents estimates that 8 million dollars in 1971-72 and 15.6 million dollars in 1972-73 will be required for debt service.

44. Although public institutions of higher education pledge student fee charges for debt service payments on academic capital improvement projects, the Ohio General Assembly indicated in 1969 that the amount so pledged would be reimbursed by appropriations from the General Revenue Fund of the State. The Board of Regents believes that this commitment should be honored and that appropriations should be made to replace student fees pledged for debt service. There will thus be needed a continuing appropriation over the next some 20 years to carry the debt service requirements of public institutions of higher education.

45. The next problem is that of additional capital improvements to be authorized for public higher education in Ohio. For replacement and expansion needs, the public institutions of higher education have requested 1.5 billion dollars in capital improvement projects to be constructed during the 1970's. The Board of Regents estimates minimum expansion needs to 1980 at approximately 4.5 million sq. ft. of assignable space or some 7 million sq. ft. of gross space. It is clear that this space will cost close to 325 million dollars at 1971 price levels. There are also urgent replacement needs for obsolete and inefficient space which could well cost another 150 to 200 million dollars. A capital improvement program in the amount of 500 million dollars is needed for the 1970's.

46. The debt service costs of a 500 million dollar capital improvement program would amount to approximately 50 million dollars a year when all the bonds have been issued. Much less would be needed in the first years of such a program. The Board of Regents recommends that not less than 250 million dollars of such a capital improvement program be authorized by the Ohio General Assembly in 1971.

47. The Board of Regents has recommended that the State of Ohio authorize by law a program of capital improvement assistance to private colleges and universities under contract with the Board. The vehicle for state government assistance in capital improvement financing already exists in the Ohio Higher Educational Facility Commission, established by Section 3377.02 of the Revised Code. The program recommended by the Board of Regents would cost about 16 million dollars a year in order to support a capital improvement program in the magnitude of 160 million dollars.

Ohio Board of Regents

48. The operating expenses required for the Ohio Board of Regents will depend in large part upon the role of the Board in relation to state government and in relation to public institutions of higher education. It is clear that the major areas of expansion of activity would be as follows:

a. Planning and coordination of two-year campuses
b. Planning and coordination of medical and health education, including activities of teaching nospitals and of adjunct medical education centers
c. Management improvement activities
d. Administration of Instructional Grants Program

General

49. The Board of Regents should continue to present a biennial current operating budget program to the Governor and General Assembly, embodying the detailed expenditure needs as calculated in accordance with the principles set forth in this section of the Master Plan.

50. The Board of Regents should continue to present a biennial capital improvement budget program to the Governor and General Assembly, embodying the detailed expenditure needs as calculated in accordance with the principles set forth in this section of the Master Plan.

XVIII. GOVERNANCE AND STATE GOVERNMENT

Governance

1. State universities, community colleges, technical colleges, and state general and technical colleges (if authorized) are by law bodies politic and corporate, in effect public corporations. By law the government of these public corporations has been vested in a board of trustees whose

number of members, length of service for members, and method of selection is determined by law.

2. The role of the board of trustees of a public corporation of higher education has not been clearly defined by law, by judicial decision, or by custom. Yet it appears that the authority of government vested in boards of trustees serves a purpose which can be and should be fully understood. The role of a board of trustees is to function in place of the executive power and the legislative power of state government. Trustees are the holders of the power of state government in relation to the state university or the public college.

3. It must be understood that the authority of the state Constitution and of state law must necessarily prescribe and circumscribe the authority of a board of trustees in the governance of a higher education corporation. Within such limits, however, as the state Constitution and state laws may establish, the authority of the board of trustees is extensive, entailing all such action as may be necessary in order to provide for the continued operation of the university or the college in the performance of its higher education mission.

4. It is highly desirable that maximum possible autonomy of governance be vested in boards of trustees. As of 1971, the extent of such authority of governance is substantial. Boards of trustees undertake the planning which determines the higher education objectives of the university or college, the programs appropriate to those objectives, the instructional procedures for accomplishing the specified programs, the rules and regulations governing the behavior of staff and students involved in the educational mission of the institution, and the utilization of available resources of facilities and staff in the operation of the institution. Boards of trustees appoint the president of a university or college, approve other appointments to the non-classified staff, fix salary compensation for faculty and principal administrative officers, and determine many details of management. Even though the civil service laws of the state apply to all staff not exempted from this law (faculty, librarians, and principal administrative officers), state universities enjoy considerable discretion in the enforcement of the civil service laws.

5. It is desirable that maximum possible autonomy of governance be vested in boards of trustees for several essential reasons. First, public higher education is a unique function of state government, quite different in purpose and scope of activity from any other governmental service. Higher education is different because it is committed to the intellectual development of individuals, to the advancement of knowledge, and to the promotion of the utilization of knowledge for the benefit of all citizens. These are purposes which can only be accomplished in an atmosphere of full acceptance and observation of academic freedom: the freedom to

teach, to learn, and to explore knowledge in a responsible and scholarly way. Secondly, if autonomy of operations and of management are not delegated to boards of trustees, then the executive power and the legislative power of state government must undertake to determine details of operation and of management within public universities and colleges. Such effort would be time-consuming. It could also be self-defeating, impairing rather than advancing the atmosphere of academic freedom. In the third place, public higher education combines a peculiar mixture of both individual and social endeavor. Learning is a personal purpose and process. Only individuals develop and preserve the capacity to learn. Learning becomes a personal good, an individual satisfaction. But learning also is a social good, involving benefits to all citizens in the development of useful knowledge which can be employed for the benefit of others, in advancing their health, their material well-being, their learning, their environment, their security. Autonomy in governance is essential to the realization of these combined individual and social benefits.

6. A state government necessarily expects that the board of trustees of a public institution of higher education will exercise its autonomy of governance with a proper concern for certain fundamentals of operation and of management. These expectations include:

a. Commitment to learning as the basic mission of the enterprise
b. Emphasis upon the service to citizens obtained from higher education
c. The utilization of available resources in the effective accomplishment of clearly defined and generally accepted goals of higher education
d. Efficient management of process and of resources
e. Uninterrupted operation

7. The autonomy of governance vested in public boards of trustees is a conditional autonomy. It is a delegated autonomy. It is an autonomy subject to periodic review to determine whether or not it is realizing its basic purposes. It is an autonomy subject to modification from time to time because of general public dissatisfaction. The price of autonomy of governance vested in public boards of trustees is vigilance in its exercise.

8. For a variety of reasons, boards of trustees of state institutions of higher education have had to rely heavily upon administrative officers, faculty members, and students in the exercise of the authority of governance. Moreover, the association of civil service staff in groups or in unions has introduced still another element in the academic community whose aspirations must be given careful consideration in the governance of the enterprise. Higher education has become a complex endeavor as knowledge has grown, as the magnitude of effort has expanded, as the utilization of knowledge in everyday life has advanced, as more persons have desired

the benefits of higher education, as students have desired greater responsibility for their personal behavior and their learning effort. Instruction, research, and public service have become highly professionalized. Management, too, has become professionalized. Students have become more active participants in the learning process.

9. It is recommended that boards of trustees of public universities and colleges continuously review the internal arrangements whereby appropriate opportunity is available for the administrative officers, faculty members, students, and civil service staff to present their particular points of view to the board in the board's own decision-making.

10. While it has been suggested at various times that it would be desirable for faculty members and for students to elect certain of their own number to be members of boards of trustees, this suggestion requires careful consideration, especially in terms of a theory and practice of government. The United States is a representative democracy. The United States is a constitutional democracy. The power of government is vested in a central or federal government and in state governments; within one of these governments power is distributed between an executive branch, a legislative branch, and a judicial branch. The people of the republic as voters elect persons to serve as their representatives in the exercise of the executive power and the legislative power; judges who exercise the judicial power are elected or are appointed by the chief executive and confirmed by the members of one legislative chamber. The bulk of the administrative staff of government are selected under provisions of merit and of continuity in service. Top administrative officials of government are usually appointed by the chief executive, subject often to confirmation by a legislative chamber.

11. The selection of boards of trustees of state universities and of public colleges should be consistent with the theory and practice of government in the United States. This would mean either election by the people or appointment by the chief executive with confirmation by a legislative chamber. The Board of Regents recommends that trustees of state universities in Ohio be appointed by the Governor subject to approval by the Senate of the General Assembly. Trustees, whatever their background of personal experience and interest, serve as representatives of all the people of Ohio.

The Role of the Ohio Board of Regents

1. The Ohio Board of Regents, established in 1963 by state law, is in effect a state board of higher education. The Board of Regents is an agency of state government specializing in the state government problems of higher education. The Board of Regents did not replace the boards of trustees of individual public institutions of higher education. The Ohio Board of Regents should continue to be a state government

instrumentality for statewide planning, coordination, and policy recommendation in the field of higher education.

2. Basic decisions about state government policy on higher education should continue to be the subject of legislative enactment in which the chief executive and the legislative branch of government will participate in their respective roles. The Board of Regents can and should exercise only such discretionary authority as may be delegated to it by law.

3. The planning and coordination role of the Board of Regents may require additional staff as more effort is expected of the Board. It may be desired to centralize the administration of the Instructional Grants Program. It is desirable to have a vice-chancellor for two-year campuses. It may be desirable to have a vice-chancellor for management to direct a state-wide management improvement program. It is desirable to have a vice-chancellor for medical affairs. These are matters to be resolved in the course of legislative consideration of these subjects and of related budgetary questions.

4. Although public institutions of higher education differ substantially one from another, the Ohio Board of Regents should continue to obtain uniform information from each institution on student enrollment, staffing, space inventory and utilization, and finances. The Board of Regents may reasonably expect public institutions of higher education to utilize planning, programming, and budgeting procedures in accordance with general guidelines set forth by the Board; and the Board may expect public institutions to observe common standards of accounting as set forth by the Auditor of State. In approving degree programs and in recommending appropriations for current operations and for capital improvements, the Board of Regents should continue to make decisions upon the basis of appropriate objective criteria.

5. The requirement of federal law that grants in aid for vocational education and technical education be administered by a single administrative agency at the state government level creates a conflict of administrative process between the State Board of Education and the Ohio Board of Regents. The state plan for distribution of this federal assistance is prepared entirely by the State Board of Education, which in turn distributes a portion of the available funds to technical education programs under standards quite different from those of the Board of Regents. It is highly desirable that technical education in Ohio operate under one set of procedures. The Board of Regents proposes to raise the issue with the State Board of Education about how this objective can best be accomplished.

6. Apart from operation of the Instructional Grants Program, the Ohio Board of Regents has only two matters of authority which are

exercised directly by the Board. One of these is the authority under Section 3333.04(N) of the Revised Code to approve or disapprove all new degrees and new degree programs of state-assisted institutions of higher education. The other is the authority under Section 3333.04(C) and under Section 3354.02 and Section 3357.02 of the Revised Code to approve the establishment of new two-year campuses. Otherwise, the authority of the Board of Regents under Section 3333.04 is a planning and advisory authority, not an authority of action or management. The Board of Regents has no desire to change this situation. In addition, the Board of Regents has been provided with some authority under appropriation laws to define the meaning of full-time equivalent student and of Ohio resident for appropriation purposes, to approve increases in instructional charges, and to recommend action on capital improvement appropriations.

7. Because of campus disorders occurring in Ohio in 1968, 1969, and 1970, a good deal of public interest has been generated in the whole subject of the professional privileges and obligations of faculty members and of the privileges and obligations of students. The Board of Regents believes that at present these issues should be resolved at the institutional level by appropriate final action on the part of boards of trustees. If there is a general state government interest in these issues to be asserted at this time, the Board of Regents recommends that Codes of Professional Privileges and Obligations and Codes of Student Privileges and Obligations as enacted by boards of trustees be subject to review, recommendations for change, and approval by the Board of Regents.

The Role of State Government

1. In addition to the Ohio Board of Regents, there are several state government agencies involved in the operation and management of public universities and colleges. The Auditor of State is responsible for examination of the fiscal transactions of public universities and colleges and for certifying to the fiscal integrity of the operations of the institutions. The Attorney General of Ohio is responsible for providing legal services to state universities and state colleges. The Director of Finance and the State Controlling Board have final authority over the use of capital improvement funds. The State Controlling Board has authority to make any necessary transfers of operating funds. The Director of Public Works arranges for architectural and construction contracts for state universities. The Director of State Personnel has authority to supervise the civil service management of state universities.

2. The Ohio Board of Regents under Section 3345.22(B) of the Revised Code has authority to appoint a referee to conduct hearings of students or staff members of a state-assisted institution of higher education if a student or staff member is charged with certain crimes as specified in Section 3345.23(D) of the Revised Code. The actual conduct of hearings

is arranged by the institution and the enforcement of decisions rendered on such charges is left to each institution. This task is burdensome to the Board but is performed as a state government service on behalf of public higher education. The question must be resolved whether or not referees should be appointed only in instances involving the threat of campus disruption.

3. This **Master Plan—1971** can only be implemented by action of law or by action of individual boards of trustees. It is proper that implementation should be undertaken by the legislative process and not by authority of the Board of Regents. The final decisions about public policy in higher education in Ohio and about public financing must necessarily be made by the executive power and the legislative power of the State of Ohio.